

In the Matter of)
)
A National Broadband Plan for Our Future) GN Docket No. 09-51

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I. INTRODUCTION

The National Association of Telecommunications Officers and Advisors (“NATOA”), the Alliance for Community Media (“ACM”), the National Capital Association of Telecommunications Officers and Advisors (“CAPATOA”), Clackamas County, OR, the City of Eugene, OR, the Greater Metro Telecommunications Commission,¹ the County of Los Angeles, CA, the Marin Telecommunications Agency,² the Metropolitan Area Communications

² The Marin Telecommunications Agency is comprised of the 11 following communities: San Rafael, San Anselmo, Fairfax, Ross, Larkspur, Corte Madera, Mill Valley, Sausalito, Belvedere, and Tiburon, CA and the County of Marin, CA.

Commission,³ Montgomery County, MD, the North Suburban Communications Commission,⁴ the City of Philadelphia, PA, the City of Portland, OR, the City of Rockville, MD, the City of Salisbury, NC, the Southeastern Association of Telecommunications Officers and Advisors (“SEATOA”), the City of Seattle, WA, and the City of Takoma Park, MD, collectively “Commenters,” submit these comments in response to the above captioned Notice of Inquiry. The entities filing in response to the Notice are comprised of local governments, consortia of local governments, and national, regional and state level associations representing local governments, all of whom have a vested and long-standing interest in the deployment and availability of broadband services throughout their communities.

II. INTERESTED PARTICIPANTS

Commenters here represent those governments, agencies, and associations that are closest to America’s citizens. Our work on a daily basis to provide the best possible educational and job opportunities, and quality of life for our residents also exposes us to the real and growing broadband needs in communities across the United States. Our integral role in helping improve our nation’s broadband status was clearly evident as part of Section 6001 of the American Recovery and Reinvestment Act of 2009 (“ARRA”), and we hope that the Commission’s National Broadband Plan will similarly acknowledge the vital role of America’s local communities and local governments.

NATOA’s membership includes (1) local government officials and staff members from across the nation whose responsibility is to develop and administer communications policy and

³ The Metropolitan Area Communications Commission is comprised of the 15 following communities: Banks, Beaverton, Cornelius, Durham, Forest Grove, Gaston, Hillsboro, King City, Lake Oswego, Milwaukie, North Plains, Rivergrove, Tigard, Tualatin, and Washington County.

⁴ The North Suburban Communications Commission includes the following 10 communities: Arden Hills, Falcon Heights, Lauderdale, Little Canada, Mounds View, New Brighton, North Oaks, Roseville, St. Anthony, and Shoreview.

the provision of communications services for their communities; (2) communities that operate broadband wireline and wireless infrastructure for anchor institutions – serving the needs of government, schools, libraries, first responders, and emergency support personnel; and (3) communities that have constructed, or are in the course of constructing broadband infrastructure to meet public needs, or are offering broadband services to the public within their jurisdictions. These members manage networks in urban, suburban and rural areas across America.

More pointedly, NATOA has been an active voice in shaping American broadband policy. Throughout these comments, we will make reference to our prior submissions, as well as our own Broadband Principles which are attached to these comments as an appendix. While we will identify and present those key components of our previous filings, we encourage the Commission to revisit our suggestions in the several dockets listed in the appendix.

III. DEFINING BROADBAND CAPABILITY

In the Notice, the Commission identifies myriad ways to define what is and is not broadband, including the terms “advanced telecommunications capability,” “broadband,” and “high-speed Internet,” all of which are currently in use at the Commission.⁵ The Commission goes on to ask whether there should be one unified definition of “broadband,” or if it should maintain the use of several terms to identify different kinds of services or technologies.⁶ The Commission also asks whether any definition of “broadband” should be tied to a numerical speed, and where along the network that speed should be determined, or instead use an “experiential” metric for deciding what qualifies as “broadband.”⁷ The question of whether the

⁵ See *In the Matter of A National Broadband Plan for Our Future* (“Notice”), GN Docket No. 09-51, ¶ 15-16 (released April 8, 2009).

⁶ *Id.* at ¶ 16.

⁷ *Id.* at ¶ 17, 20.

definition should be static or dynamic also arises,⁸ as do questions over whether the definition of “broadband” should change based on the technology that has been deployed.⁹ Finally, the Commission inquires about how it should take into account devices using unlicensed spectrum to provide “broadband” connectivity.¹⁰

In summary, Commenters suggest that there should be one unified definition of broadband that recognizes the differences between technologies, aspires towards to the international standard of 100 megabits per second to 1 gigabit per second symmetrical, and that encourages networks that are scalable.

A. The Commission’s Definition of Broadband Has Not Kept Pace With the Rate of Technological Change – or the Needs of the Nation

America’s local governments recognize broadband as critical infrastructure that is essential to economic and community development. And we recognize that greater speeds and capacity are required than the American private sector has generally been willing to deliver. The demand for bandwidth is accelerating, especially as use of bandwidth-intensive video applications grows and as collaboration and social networking tools revolutionize the way we communicate. In 2006, YouTube alone consumed more bandwidth than did the entire Internet in 2000. According to John Chambers, CEO of Cisco Systems, video and online collaboration will drive network traffic to an annual growth rate of between 300 and 500 percent over the next several years.¹¹ Today’s high definition video will evolve to 3-D video which in turn will migrate to bandwidth intensive Holography. Our national definition of broadband must keep pace with the current extraordinary growth of Internet use, must account for (and enable) future

⁸ *Id.* at ¶ 18.

⁹ *Id.* at ¶ 19.

¹⁰ *Id.* at ¶ 21.

¹¹ See *One on One with Cisco Chairman and CEO John Chambers*, interview transcript, conducted May 6, 2008, available at http://www.pbs.org/nbr/site/onair/gharib/080506_gharib/.

growth and innovation, and must enable the United States to compete with nations abroad that have far outpaced us in their deployment of affordable high capacity broadband.

The Commission has increased the speed at which a given Internet access service is considered to be broadband. The new definition includes a service that delivers a burstable speed of at least 768 kilobits per second in at least one direction.¹² Although this is a substantial increase over the Commission's previous definition (200 kilobits per second) it is still not adequate, and cannot be considered even close to "broadband" as defined by European and Asian standards. This definition does not recognize the growing need for high upload speeds, driven by the substantial requirements of many current applications.

The term "broadband" has been used in telecommunications circles for some time but was popularized in the late 1990s with the introduction of cable modem and telephone company DSL service. It was used primarily to distinguish these services from dial-up Internet access over telephone lines. So "broadband" is a marketing term that has come to mean a communications service that has only two distinguishing elements: always on connectivity (as opposed to dial up), and any speed greater than that of dial-up modems (56 kilobits per second).

The problem with this understanding is that almost any level of current connectivity can be advertised as "broadband" regardless of the applications that are or are not enabled. There is no distinction between connecting to the Internet over a DSL network to download a web page and connecting to the Internet over a fiber-to-the-home network to engage in High-Definition video conferencing. The former application requires about 200 kilobits per second in the

¹² See *In the Matter of Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscribership Data, and Development of Data on Interconnected Voice over Internet Protocol (VoIP) Subscribership*, WC Docket No. 07-38, Report and Order and Further Notice of Proposed Rulemaking, adopted March 19, 2008, released June 12, 2008. Prior to that date, the Commission's definition of "broadband" had encompassed lines delivering 200 kilobits of data in one direction.

downstream direction, but the latter requires about 20 megabits per second symmetrical.

However, both are said to be using broadband. This overbroad categorization of broadband is problematic and needs to be resolved in a manner that acknowledges the vast difference between 200 kilobits per second and 20 megabits per second.

B. Broadband is Critical Infrastructure – the Platform on Which Our Economy, Our Education System, and Our Democracy Increasingly Operate

In defining “broadband,” the stakes are high for the United States. High-bandwidth broadband is widely-recognized as a key driver of future economic competitiveness, and is also regarded as a facilitator of political discourse and activity – the most important medium for communication and expression of political ideas since the advent of television. High-bandwidth broadband can:

- Facilitate democratic and free market values, by affording an open, standards-based Internet platform for all who wish to innovate, compete, and serve the public over the network,
- Enhance digital inclusion by facilitating affordable access to this enabling resource for community groups, students, the elderly, and vulnerable populations,
- Facilitate economic development by:
 - Creating jobs and the enhanced, multiplied economic activity that accompany jobs,
 - Enabling small business creation and growth,
 - Enabling the use of technology for innovation which leads to a variety of new economic opportunities,
 - Enabling “in-sourcing,” in which local businesses hire local workers to provide broadband-based services from home – rather than outsourcing to foreign countries,
 - Supporting businesses with very high bandwidth needs,
 - Enabling workforce education,
 - Enabling telework and distributed work,
 - Promoting development and revitalization zones,
 - Facilitating online collaboration and organization,
- Enhance education and technology education by creating communications among and between schools and other institutions such as Universities, programmers, and social service agencies,
- Provide a highly reliable, resilient backbone for wireless services – improving performance and capacity through fiber “backhaul,”

- Support current and future public safety and government communications systems – saving communities the enormous, unending cost of leasing circuits, and simultaneously providing a higher-quality, higher-capacity, more reliable, more secure transport for key City users such as law enforcement, fire, emergency management, and public health,
- Facilitate interoperable communications among neighboring jurisdictions, and
- Promote private sector competition, by providing a platform for numerous competitors to quickly and inexpensively enter markets (without having to build their own, duplicative networks) and offer competing, differentiated broadband services and access.

C. Broadband Should Be Defined Aspirationally – to Scale to the Emerging International Standard and to Support the High-Bandwidth Applications Needed by America's Consumers, Businesses, and Institutions

Commenters suggest that, to be considered broadband, a service should:

- Aspire toward and be scalable to the emerging international standard for next generation data communications: At least 100 megabits per second to 1 gigabit per second symmetrical, with scalability in the next decade to 10 gigabits per second, also an emerging international standard,¹³
- Have high speeds capable of supporting multiple integrated voice, video and data applications,
- Be measured by speeds actually experienced by the end users during peak times – not the theoretical “up to” speeds advertised by most providers,
- Have symmetrical connections or at least robust upstream speeds to facilitate interactivity. Every person is not only a receiver of information but potentially a producer. If Americans are to be developers and creators as well as consumers, robust upload capacity is imperative,
- Ensure high reliability and low latency, and
- Enable innovation and transformative breakthrough interactive applications such as full motion HD video conferencing, real video-on demand, "virtual" education and healthcare.

To arrive at any useful definition of broadband, we must link the speeds offered to the applications enabled. Top quality interactive video – the kind that enables educational applications, aging-in-place, rural telemedicine, and carbon-reduction through telework – requires a minimum of 22 to 25 megabits per second in both directions. Supporting telework and other bandwidth-intensive initiatives for residential and small businesses customers currently

¹³ For example, six nations already have offerings of 1 gigabit per second, and Japan has advertised offerings of 10 gigabits per second. See *Fastest advertised connection available among all surveyed operators, by country*, OECD Broadband Portal, updated September 2008, available at <http://www.oecd.org/dataoecd/11/36/39575235.xls>.

requires a connection of at least 10 megabits per second symmetrical and, realistically, 20 to 35 megabits per second in both directions in order to use today's applications. For enterprise and other power users, a 1 gigabit per second service is required. Broadband technologies should be scalable from those levels. Services not meeting that standard may provide high speed Internet access but lack the bandwidth to enable the distributed development, collaborative innovation, and data-intensive interaction that are hallmarks of the global economy – and that are necessary for the United States to compete with our competitor nations in Europe and the Pacific Rim.

We suggest that the Commission also make room in the National Broadband Plan for local, public-interest initiatives that may not meet the global standard for speed but do meet community digital inclusion needs, and further define broadband in the context of supported applications and the needs of local communities. For example, this approach gives an underserved inner-city community the ability to deploy ad hoc wireless networks as a means of leveraging existing community resources while concurrently working on adoption and computer literacy programs that help drive demand for the kinds of applications discussed above. In essence, this approach allows for the provision of a broadband gateway while users begin to understand the power of broadband connectivity. This framework enables innovative initiatives that meet digital inclusion and affordability goals, while simultaneously recognizing that truly high bandwidth broadband – consistent with the emerging global standard – should be the end goal for all the nation's planning.

IV. DEFINING ACCESS TO BROADBAND

In the Notice, the Commission asks what it means to have “access” to broadband, and whether that definition should change if the user is connected to a fixed, nomadic, or mobile broadband connection, and whether to consider the availability of broadband based on the

location, such as the home, school, libraries, or WiFi hotspots.¹⁴ The Commission then inquires about how “access” should be determined for businesses and community anchor tenants whose broadband needs differ from residential users.¹⁵ The Commission further asks whether it should consider “access” through the prism of its *2005 Broadband Policy Statement* and with “certain basic consumer expectations in mind.”¹⁶ Specifically, the Commission asks whether it should apply the principles listed in the *Policy Statement* more broadly, and if the principles needed further elaboration and development.¹⁷ Finally, the Commission asks to what extent affordability of broadband service impacts overall “access” to broadband.¹⁸

In summary, Commenters suggest the determination of whether consumers have access to broadband should include consideration of affordability, digital literacy, transparency of information to consumers, consumer choice of devices and applications, and consumer choice of providers.

A. Broadband “Access” Should Be Understood as a Combination of Factors: Affordability, Digital Literacy, Transparency of Information, and Consumer Choice of Devices, Applications, and Providers

The impact of available broadband services on the economic life of a community is determined as much by accessibility as it is by the specific speed and capacity subscribers may be offered. Building a far-reaching, high-speed, high-capacity network with outstanding reliability and scalability is a necessary first step, but if citizens cannot access the services offered over the network, then the only accomplishment will have been the construction of a digital “bridge to nowhere,” or a bridge only for the affluent or fortunate.

¹⁴ Notice at ¶ 23.

¹⁵ *Id.*

¹⁶ *Id.* at ¶ 24.

¹⁷ *Id.*

¹⁸ *Id.* at ¶ 27.

Access to broadband has importance beyond social equity. Access and the resulting greater adoption will also lead to enhanced network performance and innovation. Robert Metcalfe posited the widely-accepted notion that the value of a network increases as the square of the number of its users.¹⁹ In other words, for each new user who joins a network, the total number of interconnections in the network – and therefore its overall communicative potential – increases by the number of current users. This is another reason why it is important that we develop a network that is accessible, affordable, open, and ubiquitous: so that it will appeal to the maximal number of users.

Accordingly, Commenters suggest the determination of whether consumers have access to broadband should include the following criteria, each of which is discussed in further detail below: (1) affordability; (2) digital literacy; (3) transparency of information to consumers; (4) consumer choice of devices and applications; and (5) consumer choice of providers.

Affordability. Stated simply, broadband service that is not affordable is not accessible. Where price remains a significant barrier to consumer adoption and use, that broadband network is not accessible. Indeed, in the current environment, even where high-speed, high-capacity service is available, such service is not easily affordable by low-income and middle-class consumers and small businesses. At a basic level, then, access to broadband is defined as having the ability to connect to a network at a reasonable rate. In a truly “accessible” environment, retail prices – the prices consumers will pay for service – would strike a balance between making a deployed network economically tenable for the carrier and making service affordable for *all* consumers – not only the wealthy or the fortunate.

Two member communities of Commenters conducted extensive, statistically significant research of their residents and businesses in the summer of 2008. The economists who analyzed

¹⁹ See *Metcalfe's Law*, available at http://en.wikipedia.org/wiki/Metcalfe's_Law.

the resulting data determined that a \$40 per month service fee would maximize participation while still affording a reasonable revenue stream to the service provider.²⁰ Interest in high speeds drops off more dramatically above \$40 than below the \$40 level. This figure is based on a representative sampling of the community and is not indicative of willingness to pay for a digital inclusion product among low-income consumers. The 2008 market research suggests that the willingness of low-income consumers (defined as a household of four with less than \$33,075 per year in income)²¹ to purchase high-bandwidth broadband would peak at lower prices and fall off faster above \$20 than among the population as a whole.

To be “accessible,” then, broadband must be a service that all households, businesses and community institutions can afford regardless of income. Consider that consumers in various Asian and European countries have access to 100 megabits per second symmetrical service for \$40 per month. In contrast, in most American cities, counties, and towns, \$40 buys speeds that are 94 percent slower in the downstream direction and 99.3 percent slower in the upstream direction. Incumbent carriers offer service of “up to” 20 megabits per second upstream and 10 megabits per second downstream in some American communities, but at a price of \$140 per month (common in many markets), with a minimum commitment of two years of payments. However, those services effectively do not exist for most Americans, even in those areas that are considered “served” by high-capacity broadband. This increasingly standard price is a bar to service, and to broadband access, anywhere in the country.

Commenters therefore strongly urge that affordability be a major factor not only for determining the what kinds of programs should be recommended by the Commission but also for determining whether or not a particular community is “served” by broadband. As the

²⁰ The cities included San Francisco, CA and Gastonia, NC. The studies themselves are currently unpublished.

²¹ The poverty guidelines were published by the U.S. Department of Health and Human Services in the [Federal Register](#), Vol. 72, No. 15, January 24, 2007, pp. 3147-3148.

Commission contemplates a National Broadband Plan, this criterion of affordability should be a key factor, particularly where public funding or public assets and property (such as towers and Rights-of-way) are made available to carriers.

Digital literacy. Digital literacy is an essential part of digital access. Just as many Americans will not have “access” to networks they cannot afford, they also will not have “access” to networks they cannot understand or use. In defining access, therefore, we recommend that the Commission incorporate a number of questions into the analysis of whether a given geographic area or community (defined by factors such as income, ethnicity, education, and so on) has “access” to broadband: Do consumers have the necessary skills to make effective use of broadband networks? Is hardware readily available and affordable? Is enough public computing capacity offered so that citizens who have little or no experience with broadband can be introduced to broadband? Do consumers fully understand and appreciate the resources that are available online, such as job search tools and government resources? We urge that the Commission’s plan recognize the need not only for network deployment but also for efforts to increase consumer interest and literacy among those for whom broadband is unfamiliar, discomfoting, or irrelevant.

Transparency. Access must include transparency – full, accurate disclosure to consumers by carriers regarding their practices with regard to service speeds, capacity, and network management practices. Consumers do not have true “access” if they are sold a product that purports to be 20 megabits per second, but that speed is only available in the downstream direction or is only available under optimal circumstances when no other neighborhood users are competing for shared, scarce bandwidth. Similarly, consumers do not have true “access” if, for political, commercial, or any other reason, a network carrier is able to monitor or manipulate

network transmissions such that certain applications are degraded while others are favored, or there is latency and delay in using certain applications. If these and other carrier practices and policies are hidden from public view, consumers do not truly have “access” because they do not have accurate information about the services they are purchasing.

Accurate information regarding available services is also an essential aspect of “access.” Even where it appears that technologies have been deployed, consumers may not be able to acquire it, even if they can pay. For example, carriers sometimes define given geographic areas as “served” by DSL service but even where service is “available,” it is frequently not *accessible*. Residential and business consumers, even in major urban areas are often unable to obtain DSL at their premises even though their neighbors can. The situation is caused by two key conditions. First, a given area may be DSL-capable but all circuits configured to support DSL in the area are used, precluding the addition of new subscribers. Second, circuits configured to support DSL may be available but the copper plant extending to a given premises is not capable of supporting the DSL. Cable modem coverage also has accessibility issues. Cable-television plant was originally installed to serve residential customers and cable’s traditional footprint thus does not stretch into many business areas. Businesses not near residential neighborhoods are often not equipped with the infrastructure to support cable modem service.

Consumer choice of devices and applications: “Access” means full consumer access not only to the underlying connectivity but also to the devices and applications of their choice. The Internet has traditionally served as fuel for the engine of American innovation and entrepreneurship, and the Internet’s potential in that regard is limited only by the constraints we as a nation allow to be placed upon it. The Commission’s definition of access must therefore include the ability for consumers to connect any non-harmful device to the network (open

device) and use any necessary non-harmful application (open application) that the user requires to make use of the network. Such open networks can singularly improve competition among broadband service providers and improve the quality of services offered to consumers and businesses.

Limiting consumer choice and entrepreneurial innovation of devices and applications in either the wireline or wireless context undercuts the traditional and inherent test-bed/innovation nature of the Internet. Commenters urge the FCC to recall how the *Carterfone* and *Computer II* decisions enabled the extraordinary, organic growth of digital commerce, digital political activity and civic discourse, and digital culture on what we now call the Internet. The true importance of *Carterfone* was not the benefits that accrued to those who went on to invent the fax machine or the dial-up modem, but the benefits that accrued to the nation as consumers, businesses, government, and non-profits capitalized on the communications enabled by fax machines and dial-up modems; indeed, the commercial Internet itself was enabled by dial-up modems – which likely would never have existed absent the innovation enabled by the open device rule. In the same way, the importance of open device and application rules will be to consumers who will benefit from the creativity unleashed and the opportunities afforded when they have true “access” to their choice of competing, innovating devices and applications.

In its broadband planning, therefore, Commenters urge the Commission to recognize that an essential component of access is that unbounded, open, entrepreneurial environment that was so essential to the birth and growth of the Internet and is just as essential as we move into the broadband future.

Consumer choice of provider. In a world of “access,” consumers will have access to competing providers offering differentiated services, not only to one or two broadband choices.

Full consumer access requires a choice of services and providers; even with transparent policies, consumers who are constrained in their use of a broadband network effectively have no “access” if they do not have a choice of multiple, competing providers because they do not have the option of switching to a provider better suited to their needs.

Consumers care about access to choice of providers and, as a result, differentiated services. Commenters note that data support this contention. Two members of Commenters conducted statistically significant market research in the past year regarding the needs and requirements for broadband of consumers and small businesses in their communities.²² Consistent throughout the results of the market data is a strong preference on the part of consumers for choice and competition. Interestingly, these consumers showed relatively little interest in “bundled” products or the convenience that, according to the incumbent carriers, supposedly results from “bundling.” On the contrary, they indicated a greater preference for a choice of providers and services.

Indeed, even where broadband service is available, Americans do not have “access” if they do not have full, equal use of the entirety of the Internet or if use of their service is limited or manipulated, by network operators or providers, for political or commercial factors. Commenters posit a number of key questions in this area for determining “access:” Does a consumer have access if the operator does not offer sufficient upstream capacity to enable operation of a home-based business, or if the operator degrades full-motion video, precludes distributed, collaborative development of media or software code, or imposes arbitrary bandwidth caps? Does a consumer have “access” if certain websites or web-based services are degraded or manipulated by the operator and thereby train or condition consumers’ use of the

²² The cities involved in the studies include San Francisco, CA and Gastonia, NC. The studies themselves are currently unpublished.

Internet? Commenters suggest that the answers to these questions are, in each case, an unequivocal no. In an environment, however, where multiple providers compete and the consumer has the choice of other providers that offer differentiated services or practices, there is indeed “access.”

Commenters therefore urge that the Commission define “access” to include consumer choice of providers and we refer the Commission to Section IX of these Comments for our analysis of one means by which consumer choice and competition can be achieved.

B. The Commission’s 2005 Broadband Policy Statement Should Be Expanded to Include a Fifth Non-Discrimination Principle, Should Serve as a Floor Only, and Should Clearly Define the Bounds of Permissible Device and Traffic Management

Commenters believe that the Policy Statement should be expanded upon to include a fifth network nondiscrimination principle, as well as more clearly defining the bounds of what network operators can do in terms of device and traffic management. The Policy Statement should, in the end, reflect what consumers should reasonably expect from a network when they connect to it. As stated in the Rural Broadband Plan Report, the Commission should incorporate the creation of a nondiscrimination principle into its network policies, and should endeavor to prohibit the degradation or promotion of any one type of network traffic – or any particular transmission – over any other. Commenters refer the Commission to our detailed discussion of these issues in Section IX of this document.

V. MARKET MECHANISMS

The Commission asks what market mechanisms have been unsuccessful in delivering broadband access to sections of the country, and the reasons why these mechanisms have failed thus far.²³ The Commission goes on to ask about what combination of market mechanisms and regulatory intervention should be considered to help speed deployment in those areas where the

²³ Notice at ¶ 37.

market alone has not yet delivered broadband access.²⁴ Finally, the Commission seeks input on how to efficiently and effectively leverage regulatory behavior, such as spectrum policy, tax incentives, and other initiatives to help meet the goals of a National Broadband Plan.²⁵

In summary, Commenters urge that the Commission recognize that deregulated markets alone will not solve the broadband divide; that reasonable local, state and federal regulation have facilitated broadband access; and that a National Broadband Plan should include appropriate local, state and federal regulations that have an established history of success in driving broadband availability, such as local cable franchising.

A. Market Failure has Occurred in an Environment of Deregulation that Erroneously Speculated that Competition Would Emerge at the Facilities Level

Commenters note that the problem of broadband access is twofold: (1) no coverage to certain rural and remote areas and (2) inadequate broadband in the majority of the country. In both cases, we recognize the need to guard against the possibility that government regulations create a disincentive for private investment. However, in the recent past, the federal government's almost total reliance on market forces to bring broadband to all parts of the country has not served the nation well. In fact, it has resulted in consolidated market power for the existing cable and telecom duopoly and has stifled an emerging competitive market.

Through a series of federal actions and court rulings, the market for communications was systematically deregulated well before the establishment of any meaningful level of competition. These actions were taken based on illusory promises from the dominant telecommunications and cable companies that a hands-off approach and elimination of "burdensome" regulations would provide the necessary incentive to the private sector to bring affordable high capacity broadband to all parts of the country. A once promising market for independent ISPs and CLECs in the

²⁴ *Id.*

²⁵ *Id.*

residential and small business markets was effectively eliminated by virtual nullification of the pro-competitive provisions of the 1996 Telecommunications Act (such as line sharing and access to unbundled network elements); by the classification of cable modem service as an interstate information service with no separate telecommunications component; and by the Commission's August 2005 order abolishing the open access rules governing DSL. These ill-conceived actions also had the unintended effect of relegating the United States to also-ran status relative to our competitor nations in Europe and Asia in terms of our communications infrastructure.

In the recent past, policy makers also relied, to our collective detriment, on the illusory promise of inter modal, or "facilities-based," competition. Policy makers relied on the unproven theory that developments in broadband over power lines, satellite, and wireless technologies would usher in a new era of competition that would spur private investment and that what was thus needed was a hands-off approach so that the magic hand of the market could take over, and that robust competition would ensure coverage to all areas. By now we all realize that wireless technologies are not substitutes for landline fiber connections and that broadband over power lines and satellite broadband are bandwidth constrained. However, erroneous assumptions that one or all of these technologies would become a "third pipe" led to poor policy formulations.

B. The Deregulatory "Market" Approach Did Maximize Private Sector Profits but Led to Underinvestment with Respect to Social and Economic Benefits

This deregulate-at-all-cost approach also failed to appreciate that despite the many social and economic benefits that would accrue to all communities from broadband, the private market by itself would not focus investment on geographic areas that it deems insufficiently lucrative. As Dr. Robert Atkinson, president of the of the Information and Innovation Foundation (ITIF) correctly states: "There is considerable reason to believe that there are significant externalities from high

speed broadband, and that if left to themselves, market forces alone will lead to less investment in broadband than is socially optimal.”²⁶

Simply put, the benefits that accrue to the greater society from broadband exceed the economic returns to the broadband service providers. As a result, when market failure results in underinvestment, government intervention is required to ensure that all areas of the country are served. Unfortunately, recent years have seen experimentation with the exact opposite strategy and, as a result, America’s broadband destiny has been ceded to incumbent carriers in a duopoly environment.

The market failure is clearly evident in the problem of middle mile access to rural and remote locations. Despite the fact that wireless technologies are relatively inexpensive to deploy and can bring the Internet to remote locations, the middle mile that connects local wireless ISPs to the Internet backbone is often controlled by an incumbent local exchange carrier (“ILEC”). These dominant carriers charge exorbitant rates that inhibit the deployment of wireless broadband services to unserved areas. Commenters also note that the largest ILEC building next generation fiber-to-the-premises today is deploying only in relatively affluent suburbs. Commenters urge the Commission to review the lessons learned and the great success of the local and Federal partnership in cable franchising. Under that model and requirements for full buildout, cable was made available to 92 percent of the nation’s households.²⁷ Commenters refer the Commission to detailed discussion of that model in Section VII of this document.

²⁶ See *Framing a National Broadband Policy*, Robert D. Atkinson, published January 18, 2008, available at www.itif.org/index.php?id=118.

²⁷ See *Industry Data*, National Cable Telecommunications Association, published December 2008, available at <http://www.ncta.com/Statistics.aspx>.

C. In an Environment of Market Failure, Federal Leadership and Action is Essential

Commenters believe that as long as the market failures in broadband exist, federal policy must respond by:

1. Finding new mechanisms to encourage deployment of broadband networks to reach unserved and underserved, probably through government subsidized middle mile and last mile mechanisms that can offer access and speed on a wholesale basis to any and all service providers,
2. Imposing reasonable common carrier-style obligations on the dominant oligopoly providers to assure non-discriminatory interconnection, and non-discriminatory treatment of third party services, and structural separation of the networks from the vertically integrated services using those networks,
3. Requiring that network providers set aside a reasonable amount of network capacity, however defined, and sufficient resources to use that capacity for non-commercial speech activities, particularly community specific activities,
4. Consider accelerated depreciation and tax credits only after companies have completed infrastructure deployments and have agreed to non discriminatory access to network capacity on a cost basis, and
5. Provide incentives such as loan guarantees to local communities that seek to develop broadband networks that address their specific needs and interests.

Commenters urge the Commission to study the steps taken in Europe and Asia to stimulate public and private investment. For example, the government of France was once uninvolved in broadband deployment. However its decision to enforce strong cost-based local loop unbundling has resulted in increased competition and investment by the private sector. In addition, its willingness to subsidize and finance buildout by local communities of fiber optics in rural areas has led to dramatic increases in deployment of sustainable, viable rural fiber networks. France today is one of world's most connected countries. Many areas of Paris have fiber-to-the-home connections and residents can receive a package of voice, video and 50 megabits per second Internet service for about 30 Euros (\$41.60 USD)²⁸ per month. Similarly, the Republic of Ireland offers partnerships to any local County government willing to undertake extensive, middle-mile, open access fiber deployment for e-government, education, public

²⁸ Conversion between Euros and US Dollars obtained from <http://www.x-rates.com/calculator.html>.

safety, economic development, and other needs. The national government offers 90 percent funding for the fiber project and requires the locality to demonstrate its commitment by contributing 10 percent. In a few short years, Ireland has leapfrogged many of its neighbors in Europe with respect to broadband infrastructure.

VI. UNIVERSAL SERVICE PROGRAMS

In the Notice, the Commission asks how its existing Universal Service programs (High-Cost, Schools and Libraries, Rural Health Care/Pilot, and Low-Income) can be used effectively to further the goals of implementing a National Broadband Plan.²⁹ The Commission goes on to ask whether existing services should be modified to accommodate broadband deployment, including whether broadband should be deemed a “supported service” under Universal Service.³⁰ Next, the Commission asks whether it should create a new program designed specifically to support broadband, and whether such a new program should work as a supplement to existing mechanisms or as a replacement mechanism.³¹ The next question posed by the Commission asks what areas should receive initial priority under either a modification of existing mechanisms or creation of a new broadband-specific mechanism, such as unserved, underserved, and rural areas, and whether support should go to deployment, operations, or a mix of both.³² Finally, the Commission asks if broadband service providers should be required to make contributions to the Universal Service Fund if broadband starts to receive USF support, and what impact this requirement would have on the economics of the fund.³³

²⁹ Notice at ¶ 39.

³⁰ *Id.* at ¶ 41.

³¹ *Id.*

³² *Id.*

³³ *Id.*

In summary, Commenters urge that the National Broadband Plan include a comprehensive federal broadband support fund that encompasses the benefits of the current USF program while also weeding out the dysfunctional elements of that program.

Broadband needs to be a supported service for the purpose of Universal Service. With the convergence of voice, video, and data service into the single broadband connection, ensuring Americans have the ability to access affordable broadband becomes more important than ever before. The ability of Americans to access and create news, information, and opportunities both in their community and across the globe depends on broadband access, and is essential to competing in a global marketplace – something well beyond a simple dial tone. The Commission should, as part of its National Broadband Plan, recommend that broadband be considered a “supported service” under the Universal Service Fund.

Concomitant with making broadband a supported service, the Commission should also require broadband service providers to contribute to the Universal Service Fund. At a minimum, these payments should reflect the number of subscriber accounts that deliver broadband capability to residential, commercial, and institutional clients. By requiring broadband service providers to contribute to USF, the Commission will ensure that adequate resources exist to fund deployments in high-cost areas, while also making funding available for programs similar to Lifeline and Link Up should such an approach be adopted.

The exact mechanism for addressing broadband issues under USF will depend, in large part, on the goals the Commission seeks to address. The current mechanisms are roughly analogous to the goals of ARRA, in that they push to deploy service to high-cost, low-income, and rural areas while also addressing demand-side issues such as devices and subscription costs. Rather than suggest a preference between existing mechanisms and creation of a new

mechanism, Commenters instead urge that whatever approach is adopted the Commission should attempt to encompass as many of the goals of Section 6001 of ARRA as possible. Too narrow a focus on serving unserved areas alone does not solve our broadband problems – a comprehensive plan calls for a comprehensive support program that can address needs across the board, including of underserved populations in urban and metropolitan areas.

As positive as the outcomes of the Universal Service programs have been, there still exists a serious need for programmatic reform to guarantee that broadband efforts backed by USF do not fall prey to some existing issues. The Commission should seriously consider imposing the kind of transparency and accountability practices on the USF program as we have seen applied to ARRA programs and projects. By requiring program participants to be accountable for how they spend federal dollars, the Commission can not only stem waste, fraud, and abuse of the USF program, but ensure that the most funding possible is spent actually delivering broadband to the areas of our nation that are hardest to serve.

Finally, Commenters refer the Commission to the extraordinary level of interest and participation in the ARRA's broadband programs. A huge wave of interest has greeted the possibility of grants and loans for infrastructure projects. As is discussed in Section XIV below, Commenters anticipate an enormous number of applications from private, public, and non-profit entities to build and operate sustainable, viable broadband networks. Commenters urge the Commission to consider that the Universal Service Fund could enable and incent such innovation, creativity, and partnership if it funded infrastructure, not just services. Furthermore, infrastructure-based grants incentivize recipients to develop sustainable, feasible business models to sustain the network beyond the period of the grant. Commenters suggest that this model should be evaluated as a supplement for the existing USF model, which funds services, and thus

sometimes has the unintended and unfortunate impact of enabling a carrier to ignore business planning and sustainability issues – because USF will provide the revenue stream to sustain the network.

VII. WIRELESS SERVICE POLICIES

In the Notice, the Commission inquires about whether the imposition of more rigorous buildout requirements, like those seen in the 700 MHz band, would encourage or discourage investment in and deployment of wireless broadband.³⁴ The Commission proceeds to ask whether it should conduct a “spectrum inventory” to identify those ranges of spectrum that are suitable for providing broadband access, as well as identifying “underutilized” spectrum that could be repurposed for delivering broadband.³⁵ Finally, the Commission asks what role unlicensed operations in the white spaces found among the 700 MHz band, including but not limited to providing ad hoc backhaul mesh networks in rural areas.³⁶

In summary, Commenters note that buildout requirements are needed and have resulted in cable modem service reaching 92 percent of all U.S. households. Unlicensed spectrum has yielded significant benefits and the white space planning process should be expanded to fully maximize the capabilities of that spectrum.

A. Experience Demonstrates that Buildout Requirements Secure the Benefits of Broadband for All Americans, Not Only the Wealthy

Commenters strongly urge the Commission not to give up on buildout requirements as a result of the failed “D-Block” auction. We submit that the fault in that vision was not in requiring buildout – rather, the fault was in failing to provide some level of certainty that would enable investors to prepare business plans capable of validation; specifically, key inputs for any

³⁴ Notice at ¶ 43.

³⁵ Id. at ¶ 44.

³⁶ Id. at ¶ 45.

private sector business plan – a realistic assessment of costs – were impossible to adequately calculate under the Commission’s scenario for the D-Block auction.

While self-interested parties may cite the D-Block situation as the outcome of buildout requirements, America’s local governments have experienced a dramatically different reality. In our experience and as a result of our efforts, buildout requirements in cable franchises have secured access to cable broadband infrastructure for millions of Americans. Indeed, rather than deterring private sector investment, local buildout requirements in the cable environment have protected local taxpayers by ensuring that all companies that use public assets (the public Rights-of-way) build their networks to reach all of the taxpayers funding the construction and maintenance of those assets – not only to the wealthiest and most lucrative customers – thus securing even to lower-income Americans the enormous benefits of broadband buildouts. In the 1984 Cable Franchise Policy and Communications Act,³⁷ Congress gave to local governments the authority to require reasonable buildout to entire communities (with certain reasonable exceptions based on very low population density) and many of our communities enforced buildout requirements as a condition of granting cable franchises during the early years of cable broadband buildout throughout the United States. As a result, millions of Americans had cable modem service at their homes after the cable systems were made interactive in response to the commercial emergence of the Internet in the late 1990s. These are Americans who would not have been passed by cable broadband networks absent buildout requirements. The cable industry proudly points to how many Americans are passed by cable broadband networks – and America’s local governments take full pride in the fact that the extent of that deployment is a result of local buildout requirements and enforcement.

³⁷47 USC § 541(a)(4)(A).

This experience also extends to DSL provided over existing twisted pair voice lines. While the mechanism for compelling expansive buildouts was different, the result was similar – most Americans today have the ability to connect to a DSL landline connection. In contrast, wireless systems currently being erected without buildout requirements are serving only the most densely populated residential areas and commercial corridors. This often leaves pockets without wireless signal coverage, the very areas where wireless deployment would be a solid step toward bridging the broadband divide.

As a result of this experience, we strongly urge the Commission to require buildout in any situation in which the public contributes to a project, whether that contribution be in financial form (such as grants, loans, or loan guarantees) or in the form of use of public property (such as Rights-of-way, communications towers, utility towers, or lampposts). Unless we as a nation are content to leave the benefits of broadband only to the most fortunate and most fortunately located, buildout is an essential part of a National Broadband Plan.

B. Experience Demonstrates that Unlicensed Spectrum, Akin to the Broadcast “White Spaces” Referenced by the Commission, Can Deliver Enormous Public Benefits in the Forms of Access, Digital Literacy, Affordability, and Innovation

Experience shows, and empirical data demonstrate, that unlicensed spectrum gives consumers, communities, nonprofits, entrepreneurs, and small businesses a range of opportunities – and the attendant innovation, economies of scale, and access – that are otherwise not available because of both the unavailability of spectrum and the extremely high cost of getting access to licensed spectrum. Commenters therefore commend the Commission for its efforts to date to make available to the public, and on behalf of the public interest, the “white spaces,” or unused spectrum, in the 700 MHz broadcast spectrum.

The explosive growth in 2.4 GHz WiFi networking illustrates the incredible potential of unlicensed spectrum. WiFi started as a relatively small-scale product that was presumably going to enable consumers to extend network connectivity across their homes or small offices. But WiFi had no costly barriers to entry. It operated in free spectrum where barriers to use were low or nonexistent – so even though its propagation characteristics made it less than ideal for networking, it caught hold in the marketplace. Fairly quickly, WiFi connectivity became ubiquitous – in the form of free or paid hotspots, campus-wide networks, and in some American and European cities metropolitan-wide free “ad hoc” networks – and competition among the many manufacturers that began producing WiFi equipment brought prices lower and lower.

The end result of this WiFi innovation and expansion is that virtually every network device consumers can buy today (with the exception of cellular telephones, which operate on closed platforms) has built-in WiFi capability that will enable consumers to access the Internet in countless places throughout the country and in many parts of the rest of the world.

Commenters therefore support and applaud the Commission’s preliminary efforts to make available the white spaces, and believe that these efforts have the potential to enable another, dramatic opportunity for access, innovation, and inclusion. Indeed, opening the 700 MHz broadcast white spaces to unlicensed use can offer even greater rewards than traditional WiFi in the 2.4 GHz band, because the 700 MHz spectrum has superior propagation characteristics, including the lack of need for line-of-sight connections and the ability to penetrate buildings and foliage.

We encourage the Commission, however, to consider including in the current planning process the potential to expand and improve the *White Spaces Order* of 2008.³⁸ The current “adjacent channel” restriction on the unlicensed use of white spaces significantly limits its potential by making it available, in practical effect, only in rural areas. A number of urban and suburban members of Commenters have evaluated the feasibility of using white spaces, and found that in their major metropolitan areas, they are precluded from using white space channels, even where those channels are unused, because “adjacent channels” are in use in other, regional jurisdictions – and the Commission’s 2008 order therefore forbids use of these white spaces.

Without the urban and suburban marketplace, there is an unfortunate reduction in the potential for manufacturer innovation and competition. Experience demonstrates that technologies that are only available in rural areas have a much higher hill to climb in terms of realizing economies of scale and the related benefits of multi-manufacturer innovation and price reduction. Thus, if unlicensed 700 MHz white space is only a rural phenomenon, it is unlikely to develop at the level that the unused spectrum and the potential technologies truly merit. Moreover, such a policy denies the benefits of this unused spectrum to urban and suburban communities. It is therefore worth reassessing whether the Commission’s White Spaces Order was overprotective to the point of eliminating the benefit it purported to enable.

C. Prudence Suggests the Commission Evaluate Potential Health Risks of Low-Frequency Electromagnetic and Radio Frequency Emissions in the Near Future, Either as Part of This or an Additional Proceeding

Commenters urge the Commission to evaluate the potential health impact of low-frequency electromagnetic and radio frequency (RF) wireless emissions. The Commission has

³⁸ See *In the Matter of Unlicensed Operation in the TV Broadcast Bands*, ET Docket No. 04-186, *Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band*, ET Docket No. 02-380, Second Report and Order and Memorandum Report and Order, released November 14, 2008.

not addressed this issue in a number of years.³⁹ Some of the research evaluated during the earlier proceeding is now more than a decade old.

Much has changed in that decade. In the interim years since that research and proceeding, the United States has seen dramatic increases in wireless use. Indeed, a survey released in May 2009 by the Centers for Disease Control and Prevention concluded that for the first time the number of households in the U.S. with only a wireless phone exceeds the number of households with only a landline phone. It is reasonable to expect wireless use to continue to increase as the nation's wireless carriers deploy "4G" wireless broadband.

In light of this changed wireless environment and the passage of time, Commenters believe that the Commission should evaluate new studies and analyze global best practices regarding the health impact of low-frequency electromagnetic and RF radiation, either in the context of this proceeding or by initiating a proceeding dedicated to that topic. The Commission should also coordinate as appropriate with other expert agencies, including the Food and Drug Administration, the Environmental Protection Agency, the National Institute for Occupational Safety and Health, and the Occupational Safety and Health Administration.

Wireless is likely to play a substantial role in the nation's broadband future and in the Commission's National Broadband Plan – prudence suggests that now, rather than later, is the right time for an evaluation of whether there exist potential health risks.

VIII. OPEN NETWORKS

The Commission asks how the term “open” should be defined for the purpose of quantifying open networks and discussing the value of imposing openness requirements on

³⁹ See *In the Matter of Proposed Changes in the Commission's Rules Regarding Human Exposure to Radiofrequency Electromagnetic Fields*, ET Docket No. 03-137, Notice of Proposed Rulemaking, released June 26, 2003. Commenters note that no final order was released in this proceeding.

broadband networks.⁴⁰ The Commission also asks what should be incorporated into the concept of what an open network should be – access, interconnection, non-discrimination, and infrastructure sharing are all posited as possible requirements.⁴¹ The Commission then asks if it should incorporate its existing *Broadband Policy Statement* into the larger National Broadband Plan, and if the *Policy* should be amended to incorporate a fifth “nondiscrimination” principle.⁴² Finally, the Commission asks what the imposition of an open network requirement would do across different technological platforms, both in regard to the network itself and those devices that access the network.⁴³ In summary, Commenters believe that access, interconnection, non-discrimination, and infrastructure sharing should all be considered to enable development of a robust broadband market.

A. Open Access Means Openness, Competition, and Non-Discrimination With Respect to Communications Infrastructure

Commenters believe that open access means that an independent service provider without an ownership stake in the network has non-discriminatory access to the incumbent network components – while paying reasonable fees to the network owner – so that it can compete and invest in bringing new innovative services to customers. In some cases, open access can mean that there is a structural separation among the various layers of a network:

- a. Passive layer (fiber, poles, conduits, etc),
- b. Active layer (transmission electronics), and
- c. Service layer (voice, video, and data).

In an open network, the network owner may or may not itself provide services, but does sell wholesale access, making the network available to its competitors at a reasonable, non-discriminatory lease rate that affords it a profit but does not preclude competition. If the owner

⁴⁰ Notice at ¶ 47.

⁴¹ *Id.*

⁴² *Id.* at ¶ 48.

⁴³ *Id.*

does provide services itself, it cannot favor its own service offerings at the expense of competing service providers.

Openness also offers consumers choice of device and applications, so long as those choices do not harm the network. “Open device” and “open application” rules enable users to access and post any lawful content on the Internet without interference from network owners and to attach any devices to the network as long as those devices do not impair network performance.

B. Non-Discrimination, Infrastructure Sharing, and Interconnection are Necessary to Enable Development of a Robust Broadband Market

Commenters urge the Commission to evaluate and incorporate in the National Broadband Plan strategies that will stimulate creation of viable, competition-enhancing, non-discriminating, interconnected networks in both wireline and wireless.⁴⁴ Each of these three considerations, non-discrimination, infrastructure sharing, and interconnection, is addressed below.

Non-discrimination. At a minimum, the Commission’s four broadband principles should be rigorously enforced and a fifth, non-discrimination principle should be added. We urge the Commission to incorporate non-discrimination as a fifth principle and to make all the principles enforceable through the rule making process. Without such action, network owners will frequently be tempted to maximize business opportunities by discriminating in favor of their proprietary or affiliated content, applications, and services.

Commenters believe that packet non-discrimination is vital to the future of the Internet. Network owners should not be allowed to unreasonably discriminate in terms of content transport, or unnecessarily interfere in communications among end points on the network based on the source, destination, nature, or ownership of the content. Non-discrimination principles

⁴⁴ See *An Engineering Assessment of Select Technical Issues Raised in the 700 MHz Proceeding*, prepared for Media Access Project and Free Press by Columbia Telecommunications Corporation, published May 2007, available at <http://www.ctcnet.us/700%20band%20issues%20jsh.pdf>. This report discusses, among other things, the feasibility and efficiencies of implementing open access requirements for wireless networks in the 700 MHz band.

dictate that, where packet prioritization is deemed necessary to optimize certain premium applications such as those that require low latency, network owners should be required to provide similar transport terms to all providers of like services.

Many new services riding on networks will compete with services offered by the vertically integrated providers. Strong protections against anti-competitive behavior will be required, given that network owners have every economic incentive to favor their own content and services at the expense of their competitors who lease access on their networks.

Openness and Infrastructure Sharing. At a minimum, Commenters urge that openness and infrastructure sharing be requirements of any network built with federal funds. Experience with openness in the early non-commercial and commercial Internet demonstrates that infrastructure sharing will fuel innovation and bring competition and choice to wireless users who will be able to use devices and applications of their choosing across different networks. Such requirements will lead to innovation in new products and services and the creation of new business models for entrepreneurs adept at exploiting access to the underlying connectivity of the networks.

New services created by service competition over a common platform will also result in increased demand for faster broadband connections which will lead to increased investment in infrastructure from new entrants to bring fiber connections to the home. This investment will lead to the creation of additional jobs in network construction maintenance and operations.

Indeed, such innovation, creativity, and investment are core parts of the story of the birth and growth of the Internet in its pre-broadband era. Similar infrastructure sharing in the broadband era has the potential to enable comparable innovation, creativity, and investment in broadband technology and services.

Commenters recognize the many complexities of infrastructure sharing. We understand that the Commission will need to move cautiously and pursue an evolutionary path to open access and ensure that any open access conditions do not lead to less investment in broadband networks. Transitioning of current networks to open access may have to be done over a reasonable time period recognizing, for example, that many public networks were developed without public subsidies and without the expectation that they would be retroactively required to operate under an open access regime. That said, we are convinced that ultimately our citizens will be best served by the robust, competitive market for broadband services and content afforded by open access networks. We urge the Commission to take certain steps now to put us on the course towards greater openness:

- Require that networks adhere to its broadband policy principles, including network neutrality and make the principles enforceable.
- Investigate complaints by service providers about service degradation to ensure that any delays in bit transport were justified by legitimate network management needs.
- Require that any recipients of federal funds to build networks provide non discriminatory wholesale access to independent service providers.
- Require interconnection of geographically diverse networks.
- Explore the extent to which the Federal government may need to invest in construction of passive network infrastructure to stimulate the creation of open access networks.

Interconnection. All broadband networks should have the right and obligation to non-discriminatory interconnection with other broadband networks using common, interoperable standards and protocols. All local networks within a given community should establish local peering points. But even more must be done. Broadband communications at the local access level and within networks can be fast and economical. However, data packets that leave local access networks and traverse the public Internet will flow only as fast as the slowest connections between end points. Interconnection should thus be required of geographically diverse broadband networks. Such a requirement will facilitate reliable, high bandwidth, symmetrical,

peer-to-peer communications between our communities, and promote the expansion of open access networks. Interconnection will accelerate economic development through increased collaboration and information sharing and fuel innovation in health care and education. We urge the Commission to require the direct linkage of geographically diverse local broadband network peering points through the use of long haul fiber optic lines.

C. Internet History and Experience Demonstrate that Openness Benefits Consumers, the Public Interest, and the National Interest – and Also Benefits the Private Sector by Enabling Competition

Industry protests to the contrary, non-discrimination and openness are not new concepts. Rather, they represent established and successful policies without which today's Internet would not have been possible.

In the early days of ARPANET, researchers were able to use the underlying connectivity available through the phone network to transport data packets among connected computers. They had access to the phone networks because the networks were regulated as common carriers under Title II of the Telecommunications Act and subject to open access requirements. The resulting environment was one, in essence, of network "neutrality." The Internet's success arose because anyone could communicate with other network endpoints, unfettered by any unnecessary mediation from the network owner and "without change in the form or content of the information as sent and received." It would not be an exaggeration to say that this made the Internet one of history's great innovations.

Unfortunately, in the past decade as the nation has transitioned to early generation broadband technologies (Cable Modem Service from the cable industry and Digital Subscriber Line Service from the telecommunications industry), this open and dynamic early-Internet model has been replaced by a closed, monopolistic model in which the underlying infrastructure is

closed to competition by the network owner. This change was facilitated in part by the federal government in well-intentioned attempts to facilitate competition and investment.

But these practices have not resulted in competition or sufficient deployment. And in an era of communications convergence, closed networks can sometimes serve as barriers to competition and innovation. The introduction of Internet Protocol (“IP”) decouples the application or service from the transmission medium (unlike, for example, the traditional closed model in which consumers purchased cable services from cable companies and voice services from telecommunications companies – the service and network were part of an integrated whole). In an IP-based environment, Internet applications and services are determined by the software and hardware of the users residing at the network edge where most innovation takes place.

Because its design is not predicated on any specific service, the IP-based Internet will give rise to many new services as users experiment with the available bandwidth and create new services, applications, and solutions to address their individual, community, or business needs. The potential uses of the Internet are limited only by the imagination. However, users must have guaranteed access to the underlying network connectivity or the new innovations generated by the Internet marketplace will have no opportunity to compete with existing services offered by vertically integrated operators.

D. Open Access is a Disruptive Model But is the Preferred Method of Realizing the Internet’s Full Potential and Ensuring Non-Discrimination

Commenters recognize that the issue of open access is complex and controversial. We understand that in many cases there are sound business reasons why both private and municipal network owners prefer to offer exclusive services on their respective networks. What is also

true, however, is that there are tremendous advantages to open networks and that the open access model is well suited to stimulating competition and innovation in the Internet age:

- Multiple service providers competing head to head over a common platform is a more efficient use of resources and will fuel innovation in broadband services, which will accelerate economic growth and benefit local communities.
- Open access can enable network neutrality through the benefits of competition and consumer choice, without requiring complex regulatory oversight of neutrality compliance.
- Open access negates the inherent monopoly nature of next generation fiber networks.
- In open networks, new service providers will market the network.
- Open access will better maximize utilization of network capacity, allowing realization of the incredible bandwidth potential of technologies such as fiber optics.

Commenters emphasize the one extremely compelling and overriding reason why the Commission should evaluate the open access model for the Internet age: simply put, we will never know what will ultimately be possible with the Internet or be able to fully exploit the Internet's potential until we achieve active competition at the service layer.

E. Openness is Emerging as a Competition-Enhancing Strategy for Economic Development in Our Competitor Nations and Cities

Interest in open access is accelerating internationally and in the US, particularly in other parts of the world as governments learn of their importance to their countries' economies and societies. In preparing the National Broadband Plan, the Commission should evaluate developments in our competitor nations and cities (such as those described below):

Australia: The government of Australia will implement the National Broadband Network Plan and spend \$43 Billion (Australian) to subsidize construction of a next-generation open access fiber optic network that will connect (not just pass) 90 percent of homes and businesses in the country with speeds of 100 megabits per second. The remaining 10 percent of residences will be served by next generation wireless and satellite. The Australian government views broadband networks as a critical information utility essential to economic growth and prosperity. The

network will be built through a public-private-partnership. The Australian government will establish a new company that will own 51 percent of the network with the remaining portion funded by private interests. This will be the largest infrastructure project in the history of Australia. According to the Ministry of Broadband, Communications, and the Digital Economy:

The new investment is also the biggest reform in telecommunications in two decades because it delivers separation between the infrastructure provider and retail service providers. This means better and fairer infrastructure access for service providers, greater retail competition, and better services for families and businesses.⁴⁵

Vasteras, Sweden: This Swedish city has operated a wholesale open access model for some time. Currently, 85 different competing providers serve residences and businesses over the network.⁴⁶ Vasteras also demonstrates the cross sectoral innovation that takes place at the local level with specialized local service providers supplying new health care, educational, and entertainment services.

Amsterdam, Netherlands: The City of Amsterdam, in partnership with ING bank and housing cooperatives, created the CityNet open access fiber network that will eventually pass 450,000 residences and businesses. CityNet contracted with a BBned, a subsidiary of Telecom Italia, to operate the network. BBned is also a service provider for a limited period of time so that it can recover its investment and sign up new subscribers. However, incentives were built into the contract to encourage BBned to find additional service providers for the network and BBned was prevented from favoring its own services. At the current time, four competing providers offer services over the network.

Singapore: The government of Singapore has taken perhaps the most aggressive approach to open access by insisting on strict structural separation in its Next Generation National Broadband Network. It has decided on a layered approach where the owner of the passive fiber

⁴⁵ http://www.minister.dbcde.gov.au/media/media_releases/2009/022

⁴⁶ Mnc.nu/pages/English.

infrastructure (NetCo) will not provide services over the network. The government of Singapore views this passive layer as a natural monopoly and will provide \$750 million to a private company to build it. It will also separate the active layer that provides transmission (OpCo) from the retail service providers (RSPs). Singapore plans to make the network available to 410,000 homes and businesses by 2015. According to Dr. Lee Boon Yang, Singapore Minister for Information, Communications, and the Arts:

A Next Generation Broadband Network will contribute to Singapore's continued economic success. It is also critical for the Next Gen NBN to provide effective open access to downstream operators. This will create a more vibrant and competitive broadband market. As a policy, we have therefore decided to adopt separation between the different levels of the Next Gen NBN to achieve effective open access. The RFP to construct the network will therefore provide for structural separation of the passive network operator from the downstream operators. If necessary, the Government is also prepared to consider legislation to achieve such effective open access for downstream operators in the next generation broadband market.⁴⁷

New Zealand: Similar to Australia, the government of New Zealand is building an open access fiber network. It plans to create FibreCo as a regulated monopoly, which will build out the network to 75 percent of the country within 10 years and provide wholesale open access to the network at regulated rates.

At the end of the day, the issues of openness and interconnection come down to who will control the critical communications infrastructure of the 21st century. Whoever controls the “last mile” connection to the home controls information in the digital age. In an ideal world, no one company will control that flow of information, but will compete to share and transmit information over a competition-rich network. Commenters urge the Commission to ensure the National Broadband Plan maximizes the Internet’s extraordinary potential for service, competition, innovation, and growth.

⁴⁷ <http://www.convergedigest.com/Bandwidth/newnetworksarticle.asp?ID=23307&ctgy=>

IX. COMPETITION

In the Notice, the Commission asks how competition between platforms and service providers on the same platform should be considered as part of the National Broadband Plan and toward achieving the goals of ARRA.⁴⁸ Specifically, the Commission asks whether having multiple providers is useful or necessary for meeting broadband access goals in unserved and underserved areas, and if subsidizing more than one provider in a sparsely populated area makes sense.⁴⁹ Finally, the Commission asks whether it makes a difference if competing providers use differing technological platforms or compete using the same platform, and how sufficient competition should be defined for the purposes of deciding whether competition has effectively and efficiently delivered broadband access.⁵⁰

Commenters and the local communities we represent have long advocated for increased competition in communications markets because it will result in better customer service, lower prices, and new innovative service offerings. Our comments are predicated on the belief that the Commission's broadband plan will place the United States on a trajectory that will ultimately result in affordable access to open and interconnected fiber-to-the-premises, next generation networks for all Americans. These landline networks will be complemented by interconnected, robust wireless networks to support the connectivity needs of mobile users who will use portable devices across multiple platforms. Users will be able to seamlessly transition from a rich, immersive broadband experience at the home or office to the wireless network that best addresses their particular needs. This could be access to a wireless network at a fixed location outside the home or in a car travelling the Interstate at 65 miles per hour. We hope that the Commission will formulate its strategic objectives based on such a shared understanding.

⁴⁸ Notice at ¶ 49.

⁴⁹ *Id.*

⁵⁰ *Id.*

Commenters note that such a world may be aspirational in the United States but is an existing or emerging reality in our competitor nations such as China, Japan, France, and India.

Within that context, one way to measure the effectiveness of infrastructure investments is by considering the degree to which they have had an impact in moving us along the arc that will lead to the broadband environment described above. When measuring such progress, we should take into account factors such as increased speeds; new services supported; reduced costs to consumers and reduced barriers to entry for independent service providers; and – most importantly – the proximity of the fiber to the premise and the conditions for gaining access to it.

While Commenters support competition across different platforms, we urge that the Commission not to base a National Broadband Plan on the unproven (indeed, disproven) theory that facilities-based competition will result in the desired effects of affordable universal access to high capacity networks. In most American communities today, there exists – at best – a choice only between a cable operator or the ILEC for landline broadband service. Wireless service is now also dominated by the two major ILECs. High entry and deployment costs exist in most areas and in many cases facilities based competition does not make economic sense. To promote competition, the Commission should reinstitute some common carrier provisions and local loop unbundling. It must definitely require open access whenever public funds are used.

A clear example of where multiple providers over a common infrastructure can bring competition to many consumers is in service to multiple dwelling units (“MDUs”). The Commission’s recent order barring exclusive contracts between MDU owners and cable operators is a step in the right direction to encourage competition for the nation’s many apartment and condominium dwellers. However, despite the Commission’s action, many building owners are hesitant to have a second provider if it means construction of another set of

wires in the building. In an open platform environment, this would not be a problem. Any apartment dweller would be able to choose his or her providers through choice-enabling mechanisms such as a web portal offering a menu of different speeds, programs, features, prices, and other options. The Commission should also continue or aggressively expand its efforts to curb other anticompetitive practices by providers with substantial market power, including predatory pricing, targeted rate discrimination, and denial of access to video programming and other content.

X. OTHER MECHANISMS – TOWER SITING, POLE ATTACHMENTS, RIGHTS-OF-WAY MANAGEMENT, AND LOCAL FRANCHISING

The Commission asks “to what extent do tower siting, pole attachments...cable franchising and rights-of-way issues...stand as impediments to further broadband deployments where such deployments would be made by market participants in the absence of any government-funded programs?”⁵¹ As an initial matter, the tone and tenor of this question is disturbing in that it does little more than invite criticism of local governments. It presupposes that local governments, through zoning, land use, rights-of-way management, and local franchising have in fact acted as “impediments” to broadband deployment, both in the wireline and wireless environment. Commenters contend that this connotation will both skew other commenters’ input on the role of local government, and overlooks the actual beneficial role that local governments have played in helping to deliver broadband access as widely as it currently exists. To be fair, the Commission should have asked, at a minimum, to what extent local government practices impede *or promote* broadband deployment. In that way, the Commission would be better served with information to assist it in promoting and expanding policies that have been successful, while avoiding those that have not.

⁵¹ Notice at ¶ 50.

Local franchising, regulation, and public property compensation requirements play a crucial role in protecting public safety, ensuring public input into facilities deployment within communities, and ensuring means of funding community broadband services and development.

A. Much of the “Evidence” That Claims Local Governments are “Impediments” to Broadband Deployment is Specious at Best, as Indicated by the Docket Related to the CTIA Preemption Petition

We caution the Commission that, experience demonstrates that much of the “evidence” adduced in response to this question will be inherently anecdotal, and especially in the case of information provided by industry, one-sided, often anonymous, and untested by cross-examination and rebuttal.⁵² As has been the case in prior proceedings,⁵³ we expect the Commission to receive scores of unsubstantiated criticisms of local governments impeding broadband deployment. Recognizing that the Commission’s question includes the notion that barring such impediments, additional broadband deployments would have been made, the Commission should, in the interests of fairness, accuracy, and thoroughness, ignore any criticism of local actions unless such criticisms (1) specifically identify the jurisdiction complained of; (2) provide notice and an opportunity for each such jurisdiction to respond; (3) describe the specific facts surrounding the complained of action; and (4) demonstrate with credible evidence that the broadband deployment in fact would have been made in that location but for the supposed local

⁵² In this regard, we note the FCC’s ruling in *Ex Parte Presentations in Commission Proceedings*, GC Dkt. No. 95-21, Mem. Opin. & Order, 14 FCC Rcd. 18831 (1999), requiring that any local government that is the subject or, or named in a preemption petition must be served with a copy of that petition in to provide the local government with an opportunity to respond to the allegations against it. Due process and principles of fundamental fairness make it particularly imperative that the Commission require commenters to adhere strictly to a similar requirement in this proceeding.

⁵³ See *In the Matter of Petition for Declaratory Ruling to Clarify Provisions of Section 332(c)(7)(B) to Ensure Timely Siting Review and to Preempt under Section 253 State and Local Ordinances that Classify All Wireless Siting Proposals as Requiring a Variance*, WT Docket No. 08-165, Petition for Declaratory Ruling, filed July 11, 2008. See Also *In the Matter of Implementation of Section 621(a)(1) of the Cable Communications Policy Act (cont...) of 1984 as amended by the Cable Television Consumer Protection and Competition Act of 1992*, MB Docket No. 05-311, First Report and Order released March 5, 2007, Second Report and Order released November 6, 2007.

government impediment. The Commission must insist on comprehensive, verifiable information, before allegations of impediments will be considered.

Regulation of land uses within communities has traditionally been controlled by local government.⁵⁴ If there is an “impediment” problem, whether it be related to franchising, land use or rights-of-way management, it is important that the extent of that problem be accurately quantified prior to considering policy recommendations. According to the U.S. Census Bureau, there are 38,967 units of local governments (counties, municipalities, towns and townships) in the United States.⁵⁵ Federal laws and policies that preempt or restrict traditional areas of local control should not be considered unless and until the federal government is convinced, based upon its evidentiary record, that there is a widespread, significant national problem. The Commenters assert that the *credible* evidence in this proceeding will demonstrate just the opposite – that in-depth involvement at the local level by 38,967 units of government has resulted in far more ubiquitous deployments.

In the vast majority of cases, local government action necessary to facilitate private sector broadband deployment occurs within a reasonable period of time. As we pointed out in prior Commission proceedings, cable franchising involves a variety of concerns by both parties as agreements to meet community needs and interests are met, and it is inappropriate to blame local entities for delays.⁵⁶ In addition, many jurisdictions specifically provide for administrative

⁵⁴ *Solid Waste Agency of N. Cook County v. U.S. Army Corp of Eng’rs, et al.*, 531 U.S. 159, 174 (2000) citing *Hess v. Port Auth. of Trans-Hudson Corp.*, 513 U.S. 30, 44 (1994); see also, *Nottoway County, supra.*, at 703, citing *Gardner v. City of Baltimore*, 969 F.2d 63, 67 (4th Cir. 1992) (“land-use decisions are a core function of local government. Few other municipal functions have such an important and direct impact on the daily lives of those who live or work in a community.”).

⁵⁵ http://www.census.gov/govs/www/02PubUsedoc_GovOrg.html#GP_Govs

⁵⁶ See Comments of NATOA Et. al., *In the Matter of Implementation of Section 621(a)(1) of the Cable Communications Policy Act of 1984 as amended by the Cable Television Consumer Protection and Competition Act of 1992 (NATOA 621 Comments)*, MB Docket No. 05-311, filed February 13, 2006.

approvals for a variety of permit and land use applications.⁵⁷ These are processes that do not require public hearings prior to approval. A review of the Comments filed in WT Docket 08-165 discloses scores of local governments throughout this nation that act within reasonable periods of time on land use applications, and have very good reasons to explain those limited cases when reaching a final decision takes longer than either party may like. Even the industry commenters in that proceeding acknowledged *that in most cases*, local governments make decisions on siting requests in reasonable periods of time.⁵⁸ Industry commenters there anecdotally claimed significant problems, despite the fact that over 80% of providers had collocation requests granted in less than a week⁵⁹ and despite the fact that the majority of new construction requests are granted in less than 2 months.⁶⁰

B. Consideration of Zoning Applications Requires that the Public be Afforded an Opportunity to Comment, a Process that Takes Time

When a local government takes a longer period of time to reach a final decision, there are usually good reasons – some related to the regular local government process, and others related to specific actions or failures to act by the applicant.⁶¹ In some communities, local zoning codes require applicants and local government staff to conduct one or more neighborhood meetings, prior to an application moving forward. These meetings provide applicants with a clearer understanding of neighborhood concerns, and an opportunity to adjust their applications to address those concerns. Frequently, this input results in an improved plan and increases public

⁵⁷ See Comments of GMTC Et. al., *In the Matter of Petition for Declaratory Ruling to Clarify Provisions of Section 332(c)(7)(B) to Ensure Timely Siting Review and to Preempt under Section 253 State and Local Ordinances that Classify All Wireless Siting Proposals as Requiring a Variance (GMTC CTIA Comments)*, WT Docket No. 08-165, p. 14, filed September 29, 2008.

⁵⁸ See *GMTC CTIA Comments* at pp. 13-14.

⁵⁹ See Reply Comments of NATOA, Et. al., *In the Matter of Petition for Declaratory Ruling to Clarify Provisions of Section 332(c)(7)(B) to Ensure Timely Siting Review and to Preempt under Section 253 State and Local Ordinances that Classify All Wireless Siting Proposals as Requiring a Variance (NATOA CTIA Reply Comments)*, WT Docket No. 08-165, p. 2, filed October 14, 2008.

⁶⁰ *Id.*

⁶¹ See *GMTC CTIA Comments* at pp. 15-18.

support for, and comfort with, the project. Adjustments in applications are considered by local government staff, and there may be suggestions provided to the applicant for additional information in response. This review cycle is a necessary element of working an application into final format so that it is ready for consideration and decision by planning commissions and elected governing bodies.⁶² This is not evidence of dilatory local government actions, or “delay” as the industry likes to cast it. It is simply evidence of the democratic political process at work.

Many local land use codes, home rule charters, and state statutes contain requirements for notification and posting in connection with some land use applications. Generally speaking, communities will not schedule a matter for public hearing until an application is considered complete in accordance with local code requirements. While not a frequent occurrence, it is not uncommon for a public hearing on a land use matter to be scheduled, and on the date of the hearing the governing body must postpone to a later date because of some defect in the legally required notice or posting.⁶³ Commenters submit that state and local requirements for notice and posting are not unreasonable, and delays caused by an applicant’s failure to comply do not amount to “impediments.”

Regarding cable franchising, as Commenters have previously noted,⁶⁴ the conclusion that local governments have embraced the policy behind promoting competitive cable franchising is further supported by the remarkable dearth of reported precedent concerning § 621(a)(1) of the Cable Act⁶⁵ in general, and its “unreasonable refusal” provision in particular, in the nearly 17 years since it was enacted. In fact, in that period, there have only been five reported cases that even involved claims that a local franchising authority (LFA) violated § 621(a)(1)’s

⁶² *Id.* at p. 15

⁶³ *Id.* at p. 16.

⁶⁴ See *NATOA 621 Comments* at pp.22-24.

⁶⁵ 47 U.S.C. § 541(a)(1).

“unreasonable refusal” provision, in only two of those cases was a violation found, and in neither did the LFA even deny the franchise application.⁶⁶

C. Local Governments and Their Elected Officials Have Good Reason to Work Proactively with Broadband Service Providers, and Have Collaborated with Providers Previously

In many cases, local governments have taken affirmative steps to work together with the industry, seeking input and making code modifications, based upon industry suggestions.⁶⁷

Were the Commission to recommend federal policy changes to preempt local processes, it would send an ominous message, and suggest that attempts to reach out, compromise, and seek workable solutions are really a waste of time. Those communities that have invested time and energy in developing code provisions to accommodate industry concerns, and that have demonstrated a track record of reasonable actions, should not be “rewarded” with a National Broadband Plan that recommends the preemption of local control simply because some limited number of industry deployment attempts may have experienced problems in a limited number of communities.

This will not be the first time that the Commission will consider claims about local government “impediments,” with demands for new laws preempting local authority in order to “fix” the problem. These issues have been successfully addressed in the past through

⁶⁶ See *NEPSK, Inc. v. Town of Houlton*, 167 F.Supp. 2d 98 (D. Maine 2001), *aff’d*, 283 F.3d 1 (1st Cir. 2002) (holding that incumbent cable operator’s response to a request for proposals is not an application for a second, competitive franchise); *Qwest Broadband Services v. City of Boulder*, 151 F.Supp. 2d 1236 (D. Colo. 2001) (holding city charter requiring voter approval of franchises violates § 621(a)(1)); *Knology, Inc. v. Insight Communications Co., L.P.*, 2001 WL 1750839 (W.D. Ky. March 20, 2001) (in a dispute between an incumbent and newly awarded franchise, the LFA’s enactment of a local parity provision that permitted an incumbent to automatically stay the grant of additional franchises was an “unreasonabl[e] den[ial]” in violation of § 621(a)); *Classic Communications, Inc. v. Rural Telephone Service Co., Inc.*, 956 F.Supp. 896 (D. Kan. 1996) (cable operator alleges that LFA unreasonably refused to grant it a competitive franchise; court denies LFA’s motion to dismiss without resolving on the merits whether refusal was unreasonable under § 621(a)(1)); *Liberty Cable v. City of New York*, 893 F.Supp. 191 (S.D.N.Y. 1995) (finding § 621(a)(1) claim not ripe because city had not acted on application yet), *aff’d*, 60 F.3d 961 (2d Cir. 1995).

⁶⁷ See *GMTC CTIA Comments* at pp. 20-21.

cooperative discussion among the parties with Commission support. In 1996, CTIA filed a petition seeking preemption of local land use authority with respect to zoning moratoria.⁶⁸ The industry complained of significant problems nationwide, but initially failed to name specific jurisdictions to allow those alleged bad actors an opportunity to offer their side of the story. Local governments asserted that there was no widespread national problem that would justify the extraordinary action of federal preemption of local zoning authority. In response to local feedback, and with Commission support, the Commission's Local and State Government Advisory Committee met numerous times with CTIA to help define the issues of concern and develop a voluntary mediation program, where representatives from both the industry and local governments would volunteer to work with specific entities that had individual problems with the impacts of a moratorium.

Those negotiations resulted in an agreement whereby the petition to preempt local land use authority was withdrawn.⁶⁹ These kinds of cooperative engagements should be highlighted and encouraged. Indeed, CTIA's press release noting the benefits of these cooperative efforts still appears on the organization's web site.⁷⁰

More recently, NATOA reached out to its membership and to the wireless industry to develop a publication to help local governments better understand the issues and legal environment surrounding deployment of wireless facilities. The result is a publication titled *Local Government Official's e-Guide to Communications Facilities Siting*, which includes articles by local government advocates and the wireless industry, promoting ways to facilitate deployment.⁷¹ In particular, NATOA is appreciative of T-Mobile and the Personal

⁶⁸ DA 96-2140.

⁶⁹ <http://www.fcc.gov/statelocal/agreement.html>. See also, <http://wireless.fcc.gov/siting/local-state-gov.html>.

⁷⁰ <http://www.ctia.org/media/press/body.cfm/prid/281>.

⁷¹ <http://www.natoa.org/2009/05/new-natoa-publication-local-go.html>.

Communications Industry Association, both of whom contributed content to this publication, and promote it among their industry colleagues.

There is another crucial reason why local governments will not unreasonably delay in making the government approvals necessary to deploy more and better broadband infrastructure. Local decisions are made by elected legislative bodies – city councils, county councils and commissions, and town councils. As such, local governments are accountable, and must be responsive, to the desires of their electorates. And the Commission can rest assured that a local government’s constituents do not only want broadband; they want competition and the benefits it will bring. That is a far more effective, and democratic, check on any unreasonable local action than any federal laws could ever provide. And it is a check that is far more consistent with our nation’s principles of democracy and federalism than a set of “one-size-fits-all” national rules.

D. Local Governments Have Played, and Must Continue to Play, a Significant Role in Shaping Broadband Policy

Indeed, as noted in Section V of these comments, it is local government policy with respect to cable systems that should be credited with the extensive deployment of cable infrastructure often touted by the cable industry as the broadband networks that are already capable of delivering services to almost all Americans.⁷² This is not simply a result of a cable industry decision to invest in such a deployment. Were it not for local franchise build out requirements, the cable industry would not be able to make these claims.

Commenters suggest that the Commission does have a role in addressing perceived deployment obstacles and facilitating better broadband deployment throughout the nation. First, the Commission should restructure its Intergovernmental Advisory Committee, more along the lines of the Commission’s Local and State Government Advisory Committee that operated from

⁷² <http://www.ncta.com/StatsGroup/Availability.aspx>.

1997 to 2003. Local and state elected officials would then again meet regularly with the Commission, its staff, and the industry; would collaborate on addressing issues of broadband deployment; and would advise each other regarding how to address the hurdles in these areas as they come up. Building such relationships and maintaining regular communications will go much further in collaboratively solving our nation's broadband problems.

Further, when any information is presented to the Commission regarding local or state government activity in broadband deployment (as opposed to only when government regulations are mentioned in preemption petitions, as now set forth in Commission rules), the Commission must demand that all relevant information be disclosed, including the names of all government entities whose alleged acts result in deployment problems. It should further demand that those named entities be given a reasonable period of time to submit their own responses. Finally, after all such submittals, the Commission should consider what percentage of the 38,967 units of local government in this nation is being accused in good faith of unreasonably delaying the deployment of broadband facilities. These Commenters predict that if the Commission takes this action, the true numbers of “bad actors” – those that do not have a reasonable response to the allegations made against them – are significantly less than one tenth of one percent.

It is through improved and regular communications between all parties that the interactions between local authority and broadband deployment can be best addressed. Local governments nationwide have taken the lead in these efforts and the Commission should facilitate and encourage them as well.

XI. AFFORDABILITY

In the Notice, the Commission asks how it should define “affordability” with respect to broadband access, and how affordability should be measured and weighed as a barrier to

broadband access.⁷³ The Commission goes on to ask whether it should consider subsidizing broadband subscription costs to offset affordability concerns, much as it already does with voice service in low-income areas.⁷⁴

As discussed in Section IV, *supra*, and elsewhere in this document, broadband is not accessible unless it is affordable for consumers and businesses. In this regard, the United States is just as bad off as it is in total broadband deployment. According to the latest OECD metrics, the United States ranks 15th in price per megabit per second, behind countries like Korea, France, the United Kingdom, Italy, and Germany – all major competitors to the United States in the global economy.⁷⁵ To return the United States to a prominent place in the broadband sector, the National Broadband Plan must not only deliver truly fast broadband, but must deliver truly affordable broadband.

As discussed in Section VI, *supra*, the Commission should ensure that broadband is eligible to receive Universal Service support. As part of that support, the Commission should consider programs similar to the existing Lifeline and Link Up mechanisms that subsidize consumer device purchases and subscription costs. By providing consumers a means of making broadband more affordable, the Commission can help drive broadband adoption while simultaneously exposing more consumers to the transformative effects of broadband connectivity – further demonstrating the value proposition of bigger broadband to consumers and further driving the demand for faster broadband.

⁷³ Notice at ¶ 54.

⁷⁴ *Id.*

⁷⁵ See *OECD Broadband Portal, Average broadband monthly price per advertised Mbit/s, by country, USD PPP* (Oct. 2008), available at <http://www.oecd.org/dataoecd/22/45/39575011.xls>.

XII. BROADBAND PRIVACY

The Commission asks what the consumer expectation of privacy is when using broadband, and to what extent these expectations have on consumer adoption and use of broadband.⁷⁶ The Commission also inquires about the impact that behavioral advertising and deep packet inspection (DPI) have on consumer use of broadband.⁷⁷ Finally, the Commission asks whether protection of consumers' private information would help improve consumer demand and, as a result, investment in broadband.⁷⁸

The fundamental fact about both U.S. federal and state privacy laws is that there is a "sectoral" approach without any particular uniformity. Rather than a centralized statute governing the oversight and disposition of personally identifiable information across the board, the U.S. has addressed privacy issues sector by sector, industry by industry. The result is a patchwork of laws, with many gaps and many different approaches. The U.S. approach is distinct from that of many other countries which have uniform national privacy laws. For example, the U.S. has laws on credit reporting, educational records, video store rental lists, to name but a few, as well as cable subscriber privacy. The U.S. has laws on telemarketing practices, lie detector testing by employers, debt collection practices, government access to financial records, and wiretapping and eavesdropping. In a number of instances, there are relevant laws at both the federal and state levels in some of these sectors.

Many U.S. privacy laws, such as the credit reporting law and the Privacy Act, were developed in the early 1970s. Several more privacy related laws were enacted in a second wave of legislation in the late 1980s, including laws governing cable television privacy and cellular

⁷⁶ *Notice* at ¶ 59.

⁷⁷ *Id.*

⁷⁸ *Id.* at ¶ 60.

phone monitoring. Technology – and the ease and scope of personal information gathered about individuals by private enterprise – has developed at a breathtaking pace since many of these earlier laws were enacted. Privacy laws have simply not kept up with communications technology. The Commission should consider reviewing the existing landscape of privacy laws and identify what tools are available to help protect customers while finding ways to improve upon the existing legislative regime.

From the consumer's perspective, with respect to most of these laws – and most industry-adopted privacy policies – the burden remains primarily upon consumers to protect their own privacy. This is not only due to the existing, incomplete patchwork of privacy laws, (providing limited remedies for consumers), but also because funding to support the oversight and enforcement of these laws generally is minimal, as is the funding for direct consumer assistance. Privacy issues remain complex, both for consumers and for policymakers – especially during a time of rapidly changing technology. The Commission should gather information about the current state of privacy vis-à-vis the technology changes that have occurred and make comprehensive recommendations to Congress for uniform, enforceable laws.

XIII. SUBSCRIBERSHIP DATA AND MAPPING

The Commission asks how it can leverage its existing Form 477 data collection, which solicits deployment data at the census tract level, along with other deployment data collection and mapping approaches to better understand the current deployment environment.⁷⁹ The Commission also asks what other data, such as price and speed, it should seek to collect, and how making more data available would help meet the goals laid out by ARRA.⁸⁰

⁷⁹ Notice at ¶ 61.

⁸⁰ *Id.*

Commenters' recommendations on these topics are consistent with our prior comments to NTIA with respect to broadband data collection and mapping.⁸¹ However, there are several key differences that are necessitated by the National Broadband Plan's long range scope. The Commission should work with NTIA to create and implement as uniform and reliable a data collection and mapping program as possible, both to ensure that resources are not spent on duplicative efforts and to make the best possible use of the funding Congress made available under ARRA.

A. Any Recipient of Federal Grant or Loan Funding Should, as a Condition of Receipt, be Required to Disclose All Necessary Data for Broadband Mapping Purposes

The networks that stand to be constructed using ARRA funds, RUS grants and loans, and other federal broadband programs are using taxpayer dollars. Section 6001 of ARRA also incorporates numerous public interest provisions and purposes, evincing Congress' intent that the public interest come first when it applies to networks built using public money. The public has an important interest in ascertaining the reach of broadband throughout our nation, so that the National Broadband Plan can be based on sound information on a community by community basis.

The Commission should recommend that, as a condition of receipt of federal grant or loan funding, that information sought pursuant to Section 6001(l) of ARRA, the BDIA, or other federal broadband data collection programs be disclosed as it applies to the networks built using federal funds. It only makes sense to require that publicly funded networks disclose the reach, capacity, speed, price, and other important information to further assist the Commission in creating and implementing its National Broadband Plan.

⁸¹ See Comments of NATOA Et. al., *In the Matter of Implementation of Section 6001 of the American Recovery and Reinvestment Act of 2009 and Implementation of Title I of the American Recovery and Reinvestment Act of 2009* (NATOA NTIA Comments), Docket No. 090309298-9299-01, pp. 22-27, filed April 10, 2009.

B. Broadband Mapping Should Allow Stakeholders to Discover What Connectivity Options are Available, and Provide Pricing and Speed Information Both for Last Mile and Middle Mile Connections

Any map is only as good as the information it contains. A map of Washington, D.C.'s Metro rail system would not be as informative if station names or line colors were omitted. A trail map in a national park is not useful to hikers unless it provides information on how far a trail goes and how difficult the trail can be. A road map does not help drivers reach their destination quickly unless it contains every available highway and surface street, allowing the driver to choose the most efficient route. Within that context, broadband mapping should illustrate the broadband service options, network topologies, and prices available in all communities of a state. Such data can be used to begin to direct public and private investment.

A consumer, at a minimum, should be able to see what providers offer broadband services to their home. This should include the kind of connectivity provided (fiber optic, cable, WiMax, etc.) and the relevant differences between them, so that a consumer appreciates the various delivery options available. Speed should be included as part of a broadband map, so long as that speed is a measured actual speed during peak usage hours. Consumers should not be lured in by the glow of "as advertised" speeds, but instead have a reasonable understanding of what kind of connectivity they can expect – in both directions – at times when they, too, are most likely to be online. The cost of service is essential information a consumer should expect to find listed on a broadband map. Cost should indicate not only the monthly service charge, but also inform the consumer of additional taxes, fees, and installation or termination charges that may be involved. Armed with this information, consumers will be well situated to select a broadband connectivity option that meets their anticipated needs and price point, while knowing that other alternatives exist should they decide their current connectivity option isn't working out as

planned. Mapping should clearly illustrate the proximity of fiber optic lines to homes and businesses and the conditions for access to those lines. While different technologies can provide broadband service, fiber is the common denominator in any true broadband network. Succeeding iterations of maps should indicate that fiber is inexorably marching to the end user premises.

The collection of this information should also be extended to apply to middle mile fiber-optic backhaul. As important as it is to understand where consumer connections exist, there is as pressing a need to know what middle mile lines are in play, and which areas could stand to benefit from investment in expanded middle mile deployments. Offering cutting-edge wireline and wireless broadband connectivity at the last mile is only as good as the middle mile backhaul that delivers the information to the Internet backbone. Local governments will have an important role to play in identifying these middle mile lines, many of which have been constructed by municipalities, while information on others will be most readily available through local government zoning and land use offices – since there was no effort to tag and identify middle-mile deployments previous to this Plan.

C. Mapping Information Should be Available to All Interested Parties for Any Lawful Reason

Just as consumers need broadband mapping information to decide what options best meet their individual needs, local governments need broadband data to better understand what areas of their community are not having their connectivity needs fully met. While the ends achieved using broadband deployment and availability data might differ, the means by which either party can make an informed decision remain the same – how far does service reach, and at what speeds and prices can access be gained? Local governments should have access to broadband deployment and mapping data equal to that afforded to consumers, as well as access to information on middle mile deployments.

D. Data Collection Should have the Greatest Degree of Granularity as Possible

In our NTIA comments, Commenters acknowledged a trade-off between the speedy deployment sought under ARRA and the need for deployment information on networks built using those funds.⁸² Under that situation, Commenters supported using Census Tract level granularity for data collection, in line with FCC Form 477's current requirements. However, where an overarching National Broadband Plan is involved, the greatest degree of granularity possible is essential to making informed decisions.

The need for highly granular data is important, especially in sparsely populated rural areas where a Census Tract metric will skew the data to reflect better outcomes than actually exists. To that end, Commenters encourage the use of GIS-style data collection and mapping to provide accurate information on current last mile and middle mile deployments so that policymakers can base decisions on as complete a picture as possible. To create a National Broadband Plan that relies on anything less than the best possible data would only lead to further delay in rectifying America's lagging broadband networks.

E. The Commission Should Keep the Public Interest Elements of Broadband Mapping as its Primary Focus

Since the beginning of the transition process for the Obama administration, there has been a concerted effort to make the work of government as open and transparent as possible. Whether it takes the form of the Recovery Act's website, www.recovery.gov, where taxpayers can follow the spending of their dollars, or is evinced through the inclusive and public nature of NTIA's grant program implementation process to date, a new emphasis on open government spending and action has washed over our nation. Broadband is vitally important to America's economic future, and given that funding for this endeavor comes from the taxpayers themselves,

⁸² See *NATOA NTIA Comments* at pp. 25-26.

it only stands to reason that the spirit of openness in government should extend to broadband data collection.

Because of the overriding public interest considerations involved with broadband mapping, mapping funds should only be awarded to entities who are committed to delivering transparent, independently verifiable data, and that do not have a conflict of interest in the outcome of any mapping effort. The National Broadband Plan will only be successful if the Commission, Congress, and other stakeholders have a wealth of granular, objective data at hand on which to make policy decisions. Private interests, such as profit maximization and shareholder return, should not be allowed to color this information or prevent other parties from reviewing and confirming data. The Commission should require that any entity demonstrate that it can provide data in a transparent, verifiable manner and can do so without questions looming over the objectivity of the data – this should serve as a threshold test for eligibility to conduct broadband mapping or data collection.

F. The Commission and its Sister Agencies Should Collect and Regularly Update Adoption Data

Simply tracking the reach, availability, and affordability of broadband connectivity is not enough. Understanding where adoption still lags behind the national average can help inform the Commission, NTIA, and other federal agencies as to what additional steps are needed to make sure that all Americans not only have access to broadband, but are adopting and using it as part of their everyday life. To provide lawmakers and policymakers with the other piece of the puzzle, the Commission should collect data on adoption rates in a manner similar to that suggested by NATOA in its *International Comparison and Consumer Survey NOI* comments, using the American Community Survey mechanism at the Census Bureau to regularly collect and

update consumer adoption statistics.⁸³ The Commission should also look at ways to collect data on at-risk populations beyond those agencies that deal in broadband. Agencies that provide unemployment assistance, social services, and other similar programs are well-situated to reach the kinds of populations that are most in need of broadband.

XIV. STIMULUS GRANT AND LOAN PROGRAMS

In the Notice, the Commission solicits comment on how it should take into account projects that occur as a result of receiving ARRA grant and loan funds in shaping the larger National Broadband Plan.⁸⁴ The Commission also asks how it should measure the relative success of projects that receive ARRA funds.⁸⁵ Next, the Commission asks how it can best access and leverage the quarterly reports required of NTIA grant recipients to help shape the creation of the National Broadband Plan.⁸⁶ Finally, the Commission seeks input on how it might work effectively with NTIA to ensure that the broadband grant program created under ARRA operates effectively and efficiently within the National Broadband Plan.⁸⁷

A. Data From ARRA Broadband Projects Will be Useful to the Commission to the Extent NTIA and RUS Fund Innovative Test-Beds to Demonstrate New Broadband Business and Technical Models

Even in advance of the release of rules by NTIA and RUS for the ARRA funds, Commenters believe that the ARRA BTOP grants and loans represent an unprecedented opportunity to test and demonstrate the feasibility of new business models, technology models, and community engagement models. Commenters are hopeful that innovative, well-planned, and sustainable projects will be funded under ARRA in rural, urban, and suburban areas, so as to

⁸³ See Reply Comments of NATOA, *In the Matter of International Comparison and Consumer Survey Requirements in the Broadband Data Improvement Act*, GN Docket No. 09-47, pp. 7-9, filed April 17, 2009.

⁸⁴ Notice at ¶ 62.

⁸⁵ *Id.*

⁸⁶ *Id.*

⁸⁷ *Id.*

provide data to the Commission, the administration, and the nation regarding the feasibility of models beyond the few offered to date by the incumbent carriers that have had monopoly control of the broadband market.

Assuming that such projects, representing a wide range of public, private, and nonprofit stakeholders, are indeed funded and deployed, Commenters urge the Commission to build into this planning process opportunities for review of the data that will flow from these projects, and further urge the Commission to recommend to the U.S. Congress additional iterative updates to this planning process over the next few years as the data emerge in a more mature form.

B. Data From the BTOP Grant Applications Themselves Should Inform the Commission's Deliberations Here, as These Data are Likely to Demonstrate the Extent of the Need for Better Broadband as Well as the Breadth of Local Concern and Involvement in this Area

Commenters also note that given the preliminary timeframes established thus far by NTIA and RUS, the Commission will be close to completing this broadband planning proceeding at the time that the first BTOP and RUS funds are allocated. We therefore suggest that even though there will not be data yet available regarding the outcome of the grants and loans, the grant and loan applications themselves will provide a wealth of data and insight into a range of issues, including:

- The scope of the need for broadband as represented by the volume of applications and the locations from which they derive.
- The breadth of interest in broadband by community anchors and key public and private institutions, as represented by their participation in BTOP and RUS applications.
- The tremendous pent-up need for broadband access—beyond the services currently offered by the incumbent carriers—on the part of states and localities, as represented by the volume of applications likely to be filed by eligible entities in the public sector.

The extent of local government interest in broadband networks matches the enormous interest that existed just a few years ago in the “municipal wireless” model, which in most cases involved privately owned networks attempting to meet public needs. One of the most significant

aspects of the “muni wireless” movement was the extensive interest on the part of American cities, towns, and counties; our communities hoped that “muni wireless” represented a way forward to a better broadband future. Although this private sector model eventually proved itself to be unsustainable, both because of the choice of technology and a flawed private-sector business model, the important data to flow from that multi-year experiment was the degree of interest among localities in meeting public broadband needs and the recognition that carriers were not meeting those needs in an affordable way.

Frankly, as representatives of local government, we believe NTIA and the Commission will be astonished at the volume of BTOP and RUS proposals filed by localities, community groups, and local nonprofits. And that number will not be as large as it could be, given the fact that 15 states currently prohibit or create enormous barriers to local government deployment of broadband networks, and as such, local governments from these states may not be involved in submitting proposals.⁸⁸ And not only do we anticipate a large number of applications, but we expect those applications to be well reasoned, to represent a true need and a wide range of different business and technical plans. We urge that the Commission recognize this enormous interest as data in and of itself, demonstrating the enormity of the need for bigger, better broadband in American communities.

XV. COMMUNITY DEVELOPMENT

The Commission asks how broadband access can be used to develop local communities, both as a means of identifying community issues and for better addressing these issues.⁸⁹ The Commission also seeks input on how broadband can be used to develop community resources, as

⁸⁸ See *Community Broadband, State Barriers to Public Broadband Initiatives*, available at http://www.baller.com/comm_broadband.html

⁸⁹ Notice at ¶ 80.

well as an engine for driving economic development.⁹⁰ Finally, the Commission asks how broadband can be used to disseminate local news and information.⁹¹

The benefits of broadband on local economic development are well established. According to a report conducted on behalf of North Carolina's e-NC Authority, "the increase in local GDP is more than ten-fold the value of the investments in broadband infrastructure."⁹² This statistic has been widely accepted and noted by the United States Congress.⁹³ As seen in communities like Lafayette, Louisiana and Bristol, Virginia, the deployment of 100 megabits per second networks (that can scale into the tens of gigabits per second) not only works to stem the tide of job losses, but attracts new businesses and investment based on the availability of cutting-edge broadband networks.⁹⁴ Broadband is essential to the continued economic development of our towns, villages, cities, and counties.⁹⁵

Broadband is also widely in use in communities to disseminate local news and information. Initially, this was accomplished through the insertion of public, educational, and governmental channels (PEG) on cable systems, delivering video-only news and information to community members. As the Internet has expanded and capacity increased, this content is also being delivered online in streaming, on-demand, and podcast form, along with written news and information.⁹⁶ Now, residents can go online, 24/7, and get caught up on local affairs, from town hall meetings and school board actions to community events and initiatives – often at a level of

⁹⁰ *Id.*

⁹¹ *Id.*

⁹² See *Capturing the Promise of Broadband for North Carolina and America*, Baller Herbst Law Group for e-NC, p. 15, published June 2008, available at http://www.e-nc.org/2008/pdf/Broadband_report_composite.pdf.

⁹³ See *Chairman's Mark, American Recovery and Reinvestment Act, Report Text* at p. 19, released January 15, 2009, available at <http://appropriations.house.gov/pdf/RecoveryReport01-15-09.pdf>.

⁹⁴ See *Fiber: Important to Your City's Economic Health – Lafayette, Louisiana's Success Story*, L.J. "Joey" Durel, NATOA Journal, Volume 16, Issue 4, Winter 2008, pp.5-7.

⁹⁵ See, for example, Harford County, Maryland's Technology Development Optimization and Action Plan, available at <http://www.harfordbusiness.org/Download/1070.pdf>.

⁹⁶ See, for example, www.seattlechannel.org.

detail and scope that is unavailable through traditional local broadcast and print media outlets. This use of the Internet to supplement the existing PEG channel content offerings ensures that residents have access to community news and information at a time and manner that fits into their lives. Indeed, in an era of disappearing localism in commercial television and radio, PEG channels and the Internet represent the last bastions of localism in media.

Local governments are experimenting with new models for using the enhanced communications ability of Broadband to interact with their residents, engage with their citizens and make government more transparent. Some cities are creating citizen web portals to reach out to residents who may not otherwise be able to attend a community meeting and voice their opinion. By using web tools to widen the level of civic discourse, local government can make more informed policy and budget decisions. In some communities we are witnessing the emergence of local neighborhood websites and blogs where residents interact and discuss important local issues. Local government officials can access and participate to get a real time sense of what matters to residents.

Local communities are also beginning to develop a presence on social media sites such as Facebook, understanding that they must be able to reach younger residents where they are likely to spend their time. Another development under way is the reorganization and packaging of public data in ways that are more accessible to citizens and allows users to mash public data to create new or enhanced applications. Broadband unrivalled capacity as a communications medium has set in motion a dynamic process of transformation in cities and towns across America. This transformation will make government services more accessible and more relevant to citizens. As this process unfolds what is clear is that the need for affordable access to symmetrical high bandwidth exchanges will only accelerate.

By combining the economic development and community involvement aspects of broadband, communities have the tools necessary to build economic prosperity, engage and inform residents, and generally provide an overall better quality of life than without truly high-speed broadband connectivity. This allows communities to identify and address problems more readily, as well as provide for greater public awareness and involvement, improving the exercise of the democratic process along the way.

XVI. PRIVATE SECTOR INVESTMENT

In the Notice, the Commission asks how it can better motivate private sector in broadband infrastructure, applications and services.⁹⁷ The Commission also asks about municipal provisioning of broadband services “where private sector competition has not yielded sufficient results,” the efficacy of encouraging these municipal projects, and the impact that municipal efforts have on private sector investment.⁹⁸ Finally, the Commission asks how it should measure private sector investment in and as a result of network deployments and offered services.⁹⁹

A variety of options must be considered to cover deployment costs and spur investment in broadband networks. Different methods may be preferable in different communities. For example, networks may be financed by private investment, by government investment, by public-private partnerships, by tax incentives, or by other means. None of these approaches should be prohibited by law or burdened by special restrictions (such as laws that forbid cross-subsidy by governments but allow it for private entities).

There are a number of different incentives that the Commission can recommend to spur private investment in broadband. Among these are accelerated depreciation and tax credits.

⁹⁷ Notice at ¶ 96

⁹⁸ *Id.*

⁹⁹ *Id.*

However, such incentives should only be provided after projects have been completed, thus ensuring accountability and precluding waste, fraud, and abuse – and ensuring that taxpayers do indeed realize the benefits presumably afforded by their subsidy of private sector business plans.

Another important consideration is that investments not come at the expense of local government property rights. The Commission must insist that network providers pay reasonable compensation to the governmental entities that provide resources to the networks in the form of real estate and preferential legal rights. In some cases, the revenue generated from this compensation can be used to provide broadband services to government offices and community anchor tenants, helping to further broadband's beneficial reach.

The United States is behind its competitor nations in the rollout of broadband networks. It is estimated that the cost to bring next generation fiber networks to all Americans is approximately \$100 billion. The truth of the matter is that the private sector cannot do this alone, particularly in these challenging economic times. But we cannot wait. We must welcome competition from all quarters including from local governments, local communities institutions, and community non-profits. We must develop policies that encourage municipal networks. Commenters urge the Commission to strongly recommend adoption of the Community Broadband Act and preemption of all existing barriers to public communications networks.

Commenters note the strong case for municipal involvement:

- Public networks are responding to public demand to meet the communications needs of their respective communities.
- Local governments have many social and economic priorities that can be advanced by high capacity networks.
- Most municipal networks will allow open access to independent service providers because they want to bring real value and competition to their residents.
- Despite community requests and incentives for private investment, incumbents in many communities have been either unwilling or unable to address local needs.
- Municipalities usually work in partnership with the private sector.

- Municipal networks frequently provide superior broadband service, often for about 20% less than private providers.
- Our broadband problem is also an infrastructure problem. Building critical infrastructure and managing it in the public interest is a core competency of local government.
- Local governments can accept a long term payback on their investment. Private companies require a return on investment of around 30 percent within three to five years.

Given that private communications companies have failed to address our nation's broadband needs despite being granted the deregulatory environment they wanted, any claims made by the industry to prevent competition from municipalities should be met with a large dose of healthy skepticism. One often repeated criticism of municipal networks is that public investment in broadband crowds out private investment and thus distorts the market. Putting aside the fact that communities are taking the steps to build such networks because of the inability or refusal of the industry to respond to the communications needs of local communities, these claims are false.

There is no reliable evidence that municipal entry (or any form of public investment, including federal activity) has had a negative effect on private investment in broadband. On the contrary, the opposite is true. Empirical studies and evidence from municipal builds provide ample proof that municipal entry into the communications space actually stimulates private investment from network owners and new service providers. A 2005 empirical study conducted by George S. Ford, President of Applied Economic Studies¹⁰⁰ subjected to empirical analysis the hypothesis put forth by industry that public investment in communications networks crowds out private investment. The study concluded that, “[i]ndeed, the empirical model indicates that municipal communications actually increases private firm entry and, presumably as a

¹⁰⁰ See *Does Municipal Supply of Communications Crowd-Out Private Communications Investment?*, George S. Ford, published in *Applied Economic Studies*, February 2005.

consequence, private investment” and that “we find significant evidence of more private firm entry in markets where municipalities operate [a] communications network (a 63% increase).”¹⁰¹

Our nation’s requirements for high capacity broadband networks and broadband services will require extensive collaboration among, and investment from, all parties: local communities, regions, state governments, national government, the private sector, interest groups, and others. Local governments are central players in ensuring that this “last mile” fiber connection to homes and businesses is achieved. Local elected officials are well positioned to evaluate the infrastructure and economic development tools needed to sustain viability, encourage growth, and ensure that the unique needs and specific interests of local communities are addressed. Commenters urge the Commission to recognize in its plan that local governments are key partners to industry and the states and federal government in broadband development – and that all existing barriers to public communications networks create barriers to entry that should be preempted.

XVII. IMPROVING GOVERNMENT PERFORMANCE AND COORDINATION WITH STAKEHOLDERS

The Commission asks for input on how the federal government, its departments and agencies, and state and local governments can better coordinate their efforts, both formally and

¹⁰¹ For example, in Lafayette, Louisiana, Cox Communications announced it would deliver one of its first DOCSIS 3.0 networks AFTER Lafayette Utilities System had deployed a FTTH network. See <http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9MzI1fENoaWxkSUQ9LTF8VHlwZT0z&t=1>. TDS Telecom in Monticello, Minnesota began deploying a fiber network after the local government had begun deploying its own network, and TDS sued to enjoin the government from completing its network. See *Telco to fiber-deploying town: we sue because we care*, Nate Anderson, Ars Technica, published September 11, 2008, available at <http://arstechnica.com/old/content/2008/09/telco-to-town-were-suing-you-because-we-care.ars>. The local government has recently prevailed in court over TDS, but TDS has since completed its fiber network, possibly rendering the municipal initiative unworkable. See *Monticello, MN beats the phone company; Internet a "utility"*, Nate Anderson, Ars Technica, published June 3, 2009, available at <http://arstechnica.com/tech-policy/news/2009/06/monticello-appeals-court-win.ars>.

informally, so that every entity is working toward the same common broadband goals.¹⁰² Specifically, the Commission asks how it can better coordinate efforts between federal agencies, both through the respective heads of broadband-related programs and through staff communication.¹⁰³ The Commission also asks how it can leverage broadband to assist in coordination, suggesting the creation of both internal portals and outward facing websites (like recovery.gov) could help improve coordination among all stakeholders.¹⁰⁴ The Commission then asks how it can use the public-private partnership model to help advance common broadband objectives, and what kinds of partnerships have proven to be the most successful.¹⁰⁵ Finally, the Commission solicits feedback on the idea of creating a case worker system, where a single point of contact could both help direct funding seekers to the best possible federal programs while also handling requests for information from other agencies about that project.¹⁰⁶

A. The Nation's Broadband Future Requires Coordination, Commitment, and Consistency on the Part of the Government Entities Charged with Broadband Facilitation

In comments to the Commission relating to the implementation of a rural broadband strategy, several Commenters here stressed the need for widespread coordination of broadband deployment efforts to meet the needs of rural Americans in a timely and efficient manner.¹⁰⁷ This need for coordination across all levels of government is only increased given the magnitude of task of developing a National Broadband Plan given to the Commission by Congress.

In order to effectively meet the nation's needs for broadband availability, access, use, and growth, significant effort by a wide range of government entities, including federal, state, and

¹⁰² *Id.* at ¶ 112.

¹⁰³ *Id.* at ¶ 113.

¹⁰⁴ *Id.* at ¶ 114, 116.

¹⁰⁵ *Id.* at ¶ 115.

¹⁰⁶ *Id.* at ¶ 119.

¹⁰⁷ See Comments of NATOA and the National Association of Counties, *In the Matter of Implementation of Section 6112 of the Food, Conservation, and Energy Act of 2008*, p. 4-6, Docket No. GN 09-29, filed March 25, 2009.

local agencies, will be required. This task is not insignificant: in the past, broadband planning has not involved interagency coordination within the federal government, and between the federal government, state and local government, the industry, and the public at large.

Commenters urge the Commission to recognize the extent of this task – and its significance – in the National Broadband Plan, and urge the Commission to recognize local governments as the interested, motivated, expert parties we are in this context. Localities have been involved in broadband deployment for internal and public use for decades, and the nation will be well-served by recognition of localities as partners to the private sector and to federal and state government in broadband deployment and policy.

Based on our unique expertise at the level of local deployment, operations, and broadband adoption, we urge one significant approach for creating the requisite level of coordination with regard to the variety of programs that are available and may become available through different agencies. The Commission should incorporate local and state government as advisory agents in design and execution of policies and programs, so as to benefit from on-the-ground, experience-based expertise and to ensure that information about federal efforts and opportunities flows down to the local level.

As noted above in Section XI, the National Broadband Plan provides an opportunity for the Commission to restructure its Intergovernmental Advisory Committee along the lines of the former Local and State Government Advisory Committee, to better coordinate communications on broadband deployment between the federal, state and local governments. In addition, the Office of Intergovernmental Affairs of the White House could convene an advisory committee of federal, state, local, and tribal officials to complement, not duplicate, the efforts of the

Commission, and have an easier route to incorporating federal agencies that serve a broadband function.¹⁰⁸

B. Centralized Data Collection Would Benefit All Parties, Particularly Those With the Fewest Resources To Develop Independent Information

With respect to the Commission’s question about a single point of contact to direct funding seekers to the best possible federal programs as well as handling requests for information from other agencies about that project, Commenters support this idea. As NACo’s Jeff Arnold noted on the second day of the public roundtables conducted by NTIA, RUS, and the Commission regarding ARRA, coordination and standardization of application procedures and databases can help ensure the purposes of the Act are met. The same holds true with respect to a National Broadband Plan. Such an office should also have access to information about programs from the states, mapping data, as well as being a clearinghouse for information about public sector, private sector, non-profit and public-private partnerships with broadband projects throughout the nation. Such a “one stop shop” resource would be able to put specific communities or businesses together with the most appropriate funding programs as well as with potential partners to help them meet mutual goals for deployment. It would also make valuable and extensive data available to parties such as non-profits, digital inclusion advocates, and local communities – parties that, unlike many in the communications industry, cannot afford extensive research or Washington-based data collection efforts.

Most importantly, in the same way that the ARRA requires accountability of recipients of federal funds, the National Broadband Plan can use this central entity (or another entity) to create a mechanism through regular and transparent public input, for the accountability of both the plan itself, and the agencies that are tasked with its implementation.

¹⁰⁸*Id.* at p. 5.

C. Public-Private Partnerships Should Be Encouraged, So Long as the “Public” in the Partnership is Protected and Truly Benefits

Commenters urge the Commission to encourage partnerships between the public and private sectors that can deliver benefits to both. . The National Broadband Plan should encourage creativity and innovation in the development of such partnerships, so long as the public interest is protected, such that federal policy can facilitate involvement of all community sectors in broadband deployment. Toward that end, and as noted in Section XIV above, 15 states currently restrict and in some cases prohibit local governments from any involvement in the deployment of broadband networks.¹⁰⁹ The National Broadband Plan must include a recommendation for federal legislation that prohibits states from limiting any entity from deploying and operating broadband networks.

Commenters also urge that, in addressing public-private partnerships, the Commission keep “the public” in public-private partnerships. Public funding and other benefits should not flow to projects that purport to benefit the public but, rather, deliver the bulk of benefit to a private entity. Indeed, it would be a mistake to consider all public-private partnerships equal. In the simplest terms, public-private partnerships must always benefit the public. Commenters suggest that the Commission should beware of public-private partnerships that just benefit private companies – where public funds serve to build a network to be owned by the private entity, which then requires government and non-profit entities to purchase services at retail prices. Public-private partnerships should be evaluated, in part, on the direct benefits that accrue to the government or non-profit entities (and the citizens they represent) that partner with the private company.

¹⁰⁹ See n. 78, *supra*.

Institutional networks are a perfect illustration of this type of public-private partnership. One of the most successful business models in the history of communications in the United States, these cable-based “I-Nets” are partnerships between local governments and cable companies. They represent a payment – in the form of fiber optic capacity – by the cable companies for their local franchise agreements and for the use of the public rights-of-way. I-Nets make great financial sense for local governments; they facilitate crucial educational, public safety, and other public services; and they foster strong relationships between municipalities and cable operators. The cable operator gains access to the rights-of-way and a cost-effective way to pay for that access, while the local community gains dedicated fiber optics on which to operate a network for its schools, libraries, first responders, and utilities.¹¹⁰

The Commission should scrutinize each model for public-private partnership before recommending it for the National Broadband Plan, to ensure that public interest concerns are addressed and sufficiently met.

¹¹⁰ See, for example, *Prince George’s County, Maryland I-Net*, Dr. Joe Rossmeier and Maryanne Anthony, NATOA Journal, volume 16, issue 4, Winter 2008, pp. 18-20.

XVIII. CONCLUSION

Today, the United States is at a critical juncture. Economic and social development increasingly depends on advanced communications infrastructure. The future of broadband is about more than viewing television, surfing the Web, and making phone calls. It is about new forms of communication and mass collaboration through the virtually unlimited potential for sharing information, storage capacity, processing power and software made possible through high-capacity bandwidth connections. This collaboration will generate new ideas, accelerate economic development, and lead to opportunities for wealth creation, social development, and personal expression. Local governments have always played an essential role in ensuring that the benefits of communications infrastructure would be available in communities across the United States. Localities will, by necessity and by choice, be part of the solution to our national broadband deficit, and look forward to playing an important role in our National Broadband Strategy.

Respectfully submitted,

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June 8, 2009

APPENDIX A – LIST OF ADDITIONAL SUPPORTERS

Access Humboldt (representing Humboldt County and the Cities of Eureka, Arcata, Fortuna, Rio, Dell, Ferndale and Blue Lake, CA), City of Albuquerque, NM, Houston Harris County Regional Coalition (representing the City of Houston, TX, Harris County, TX, Harris County Department of Education, Houston Community College, and the Texas Medical Center), City of Los Angeles, CA, City of Mentor, OH, Municipal Services Associates, Inc., PROTEC, TeleCommUnity.

APPENDIX B – NATOA’S BROADBAND PRINCIPLES



BROADBAND PRINCIPLES

The National Association of Telecommunications Officers and Advisors (NATOA) supports the development of a National Broadband Strategy consistent with the following principles.

1. NATOA calls for the immediate nationwide deployment of advanced broadband networks.

The United States faces a broadband crisis. Broadband network infrastructure is critical to economic growth. New and emerging applications and services demand more bandwidth than can be delivered by most current domestic networks. The gap between the United States and other industrialized nations is growing wider. Our country is becoming a digital also-ran with serious adverse consequences to our economic competitiveness and quality of life.

The United States has a proud history of deploying electric, telephone and transportation infrastructure to all parts of the country. Now we are challenged again. We are behind and the buildout of advanced broadband networks will take time. We must act now!

2. True broadband requires high capacity bandwidth in both directions.

To grow and enhance economic opportunity, local communities must have access to interactive, open, broadband networks with sufficient capacity to meet the increasing information, communications and entertainment needs of their residents, businesses, institutions and local governments. US competitors in Europe and Asia are building broadband networks that can provide bandwidth of 100 Mbps to 1 Gbps to each premise. Those networks serve as platforms for continuing innovation and allow the delivery of new services and applications that will transform these nations' economies and enhance the quality of life. To remain globally competitive, networks in this country should meet or exceed those standards and be designed so that capacity can be expanded by replacing electronics without having to rebuild the networks.

It is important for America's networks to offer symmetrical, high capacity bandwidth in both directions, as with many of the new networks in Europe and Asia. Ample upstream bandwidth empowers network users to become creators and distributors of content and applications, as well as recipients of services. NATOA believes that the success of Web sites featuring user-provided content, as well as the successes of traditional educational, government and public access television, demonstrate that people can and will become content creators if they are afforded the tools to do so.

3. Fiber to the premises is the preferred broadband option.

Broadband networks use several wire-based and wireless technologies, including: copper and other metal wires; coaxial cable, multimode fiber optics; single-mode fiber optics;

microwaves; Wi-Fi; and WiMax. The transmission bandwidth and reliability characteristics and capabilities of each technology vary based upon many factors, including: the specific technology; the transmission distance and the connecting and terminal equipment being used. Currently, single-mode fiber optic networks are capable of transmitting the most bandwidth with the highest reliability. They show the best potential to handle increasing future demands for higher speeds and greater quantities of information.

NATOA recognizes that it will not be economically feasible to bring fiber optics to all communities in the near term. Where fiber connection is not practical, other technologies, such as high capacity coaxial cable or wireless, may be viable if they achieve the bandwidth levels described above. In the long run however, the goal should be to make fiber to the premises universally available.

Wireless networks are an important part of the broadband picture. Wireless allows mobility, and offers a competitive choice for Internet access with quick and relatively low cost deployment. Wireless will not be a substitute for an all fiber network but will play a complementary role.

4. High capacity broadband connectivity must be affordable and widely accessible.

An informed citizenry requires knowledge and opportunities for expression. NATOA believes that everyone should be able to access the information and services that high capacity broadband networks will provide. Without reasonable prices and equitable access many of our citizens will not be active participants in the broadband age. Our residents and our society will benefit from wide availability, since the communicative power of the network increases exponentially as more network endpoints are created. High capacity broadband networks can bring to bear the collective ingenuity and enterprise of our citizens to find solutions to the many problems confronting us. NATOA believes that everyone should have access to high capacity networks at reasonable prices.

5. High capacity broadband requires open access networks.

Fiber optic networks continue to demonstrate economies of scale. This characteristic gives the owner of the fiber platform an unbeatable advantage over other service providers. It is expensive – perhaps prohibitively so - to build multiple fiber networks in one community. Thus the owner of the first and therefore dominant network can set unfair terms and prices for others to use it. On the other hand, multiple service providers who can compete over a common platform will fuel innovation in broadband services, which will benefit local communities and society. Thus structural or regulatory measures must be employed to protect the right to non-discriminatory access to networks for all competing service providers and to forestall unfair business practices by network owners. NATOA recognizes that private developers of new fiber networks must be able to seek a realistic return on investment. This is consistent, however, with providing access on non-discriminatory terms.

6. Network neutrality is vital to the future of the Internet.

It is vital to the future of the Internet that network owners not discriminate in terms of content transport or unnecessarily interfere in communications between end points on the network. Where packet prioritization is necessary network owners must provide similar treatment to all providers of like services. NATOA believes that everyone must have the unabridged freedom to create, post or access any lawful content and services and to attach any devices to the network as long as they do not impair network performance. Many current network traffic management strategies are a function of scarce bandwidth capacity and should not be necessary with high-capacity networks.

7. All networks and users have the right and obligation to non –discriminatory interconnection.

Broadband communications at the local access level can be fast and economical. However, data packets that leave the local access network and traverse the public Internet will flow only as fast as the slowest connections between end points. To facilitate reliable, high-bandwidth, symmetrical, peer-to-peer communications between our communities and to promote the expansion of open access networks, NATOA supports the direct linkage of local broadband fiber network peering points through the use of long haul fiber. All local broadband networks must have the right and obligation to non-discriminatory interconnection with other broadband networks using common, interoperable standards and protocols.

8. Local governments must be involved to ensure that local needs and interests are met.

The desired development of high capacity broadband networks and broadband services will require extensive collaboration among all parties: local communities, regions, state governments, national government, the private sector, interest groups and others. While the U.S. has plenty of broadband capacity in the “long haul” routes, fiber connections rarely reach homes and small businesses. Local governments are central players in ensuring that this “last mile” fiber connection to homes and businesses is achieved. Local elected officials are well positioned to evaluate the infrastructure and economic development tools needed to sustain viability, encourage growth and ensure that the unique needs and specific interests of local communities are addressed. NATOA believes local governments must be recognized as key partners to industry and the states and federal government in broadband development.

9. Local governments must be allowed to build and operate broadband networks.

Local geographic communities share common interests and offer the best opportunity for acceptance and growth of high capacity broadband. The right of local governments to build and operate broadband networks must not be infringed. Public agencies and community-based non-government agencies also need to have equal opportunity to participate through

meaningful investments in communications infrastructure. Communities must have the freedom to meet their unique communications needs. NATOA believes that local governments and the communities they serve must be able to preserve the policy option to own and operate public broadband networks. Any existing prohibitions on local government communications initiatives must be abolished.

10. A variety of options must be considered to cover deployment costs.

It is not yet clear which methods of funding deployment are best. Different methods may be preferable in different communities. For example, networks may be financed by private investment, by government investment, by public-private partnerships, by tax incentives, or by other means. None of these approaches should be prohibited by law or burdened by special restrictions (such as laws that forbid cross-subsidy by governments but allow it for private entities).

APPENDIX C – RECENT NATOA BROADBAND FILINGS

In the Matter of Unlicensed Operation in the TV Broadcast Band, ET Docket No. 04-186, Letter filed with the Federal Communications Commission October 28, 2008.

In the Matter of International Comparison and Consumer Survey Requirements in the Broadband Data Improvement Act, GN Docket No. 09-47, Reply Comments filed with the Federal Communications Commission April 17, 2009.

In the Matter of Implementation of Section 6112 of the Food, Conservation, and Energy Act of 2008, Docket No. GN 09-29, Comments filed with the Federal Communications Commission March 25, 2009.

In the Matter of Implementation of Section 6001 of the American Recovery and Reinvestment Act of 2009 and Implementation of Title I of the American Recovery and Reinvestment Act of 2009, Docket No. 090309298-9299-01, Comments filed with the National Telecommunications and Information Administration April 10, 2009.